1st ref

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LOGINID:ssspta1626gms

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	May 10	PROUSDDR now available on STN
NEWS 4	May 19	PROUSDDR: One FREE connect hour, per account, in both May and June 2004
NEWS 5	May 12	EXTEND option available in structure searching
NEWS 6	May 12	Polymer links for the POLYLINK command completed in REGISTRY
NEWS 7	May 17	FRFULL now available on STN
NEWS 8	May 27	New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus
NEWS 9	May 27	CAplus super roles and document types searchable in REGISTRY
NEWS 10	May 27	Explore APOLLIT with free connect time in June 2004
NEWS 11	Jun 22	STN Patent Forums to be held July 19-22, 2004

NEWS EXPRESS	MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 08:55:03 ON 24 JUN 2004

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an

index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 08:55:18 ON 24 JUN 2004

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9
DICTIONARY FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9

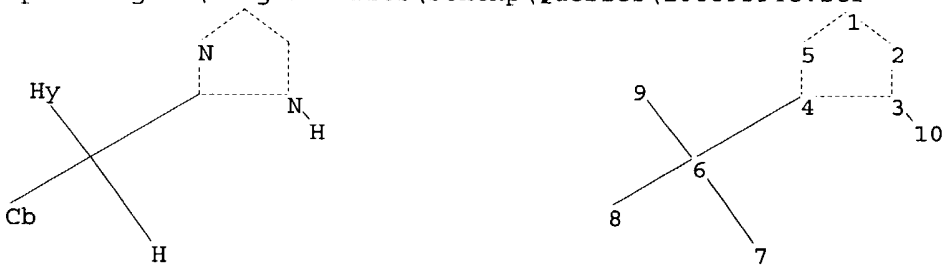
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Program Files\Stnexp\Queries\10689394c.str

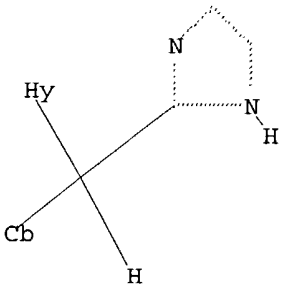


chain nodes :
6 7 8 9 10
ring nodes :
1 2 3 4 5
chain bonds :
3-10 4-6 6-7 6-8 6-9
ring bonds :
1-2 1-5 2-3 3-4 4-5
exact/norm bonds :
1-2 1-5 2-3 3-4 4-5 6-9
exact bonds :
3-10 4-6 6-7 6-8
isolated ring systems :
containing 1 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:Atom 10:CLASS

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 08:55:34 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 9355 TO ITERATE

10.7% PROCESSED 1000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 181305 TO 192895
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 08:55:40 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 188347 TO ITERATE

100.0% PROCESSED 188347 ITERATIONS 27 ANSWERS
SEARCH TIME: 00.00.06

L3 27 SEA SSS FUL L1

=> FIL CAPLUS
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.42	155.63

FILE 'CAPLUS' ENTERED AT 08:55:51 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

FILE COVERS 1907 - 24 Jun 2004 VOL 140 ISS 26
FILE LAST UPDATED: 23 Jun 2004 (20040623/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l3
L4              7 L3

=> s l4 and thu
            138 THU
        2163111 THUS
        2163234 THU
                (THU OR THUS)
L5              4 L4 AND THU

=> s l4 and py<=2002
       22503751 PY<=2002
L6              5 L4 AND PY<=2002

=> d l4 ibib abs hitstr tot
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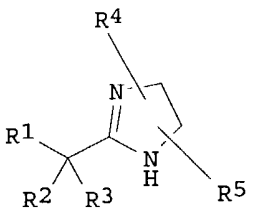
L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:348013 CAPLUS
DOCUMENT NUMBER: 140:357344
TITLE: Preparation of imidazolines as hypoglycemic agents
INVENTOR(S): Rault, Sylvain; Kopp, Marina; Lancelot, Jean-Charles; Lemaitre, Stephane; Caignard, Daniel-Henri; Bizot-espiard, Jean-Guy; Renard, Pierre
PATENT ASSIGNEE(S): Les Laboratoires Servier, Fr.
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

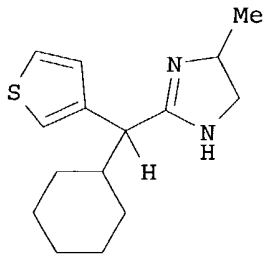
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1413579	A1	20040428	EP 2003-292634	20031022
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
FR 2846328	A1	20040430	FR 2002-13194	20021023
JP 2004143167	A2	20040520	JP 2003-357410	20031017
US 2004087638	A1	20040506	US 2003-689394	20031020

10689394

PRIORITY APPLN. INFO.: FR 2002-13194 A 20021023
OTHER SOURCE(S): MARPAT 140:357344
GI



I



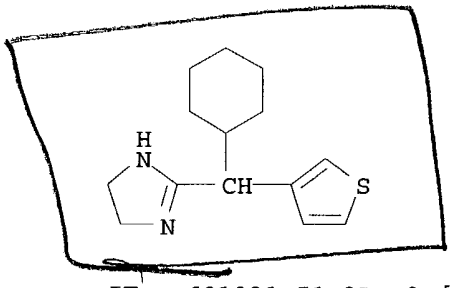
II

AB Title compds. I [wherein R1 = (un)substituted heteroaryl; R2 = (un)substituted cycloalkyl; R3 = H, alkyl; R4, R5 = independently H, halo, polyhalogeno/alkyl, etc.; their enantiomers, diastereomers, tautomers, and their salts of addition with a pharmaceutically acceptable acid or base; with provisos] were prepared as antidiabetic agents. For example, II was prepared by cyclocondensation of cyclohexyl(3-thienyl)acetonitrile (preparation given) with 1,2-propanediamine in the presence of PS5. II was tested for use as a drug for non-insulin dependent diabetes and hyperlipidemia associated with obesity (glycemia reduced 13 - 18% at 10 mg/kg). I are useful for treating diabetes mellitus type II, obesity, diabetes type I, hyperlipidemia, hypercholesterolemia, and cardiovascular complications.

IT **681821-53-4P**, 2-[(Cyclohexyl)(thiophen-3-yl)methyl]-4,5-dihydro-1H-imidazole
RL: ADV (Adverse effect, including toxicity); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(hypoglycemic agent; preparation of imidazolines for treating non-insulin dependent diabetes and hyperlipidemia associated with obesity)

RN 681821-53-4 CAPLUS

CN 1H-Imidazole, 2-(cyclohexyl-3-thienylmethyl)-4,5-dihydro- (9CI) (CA INDEX NAME)

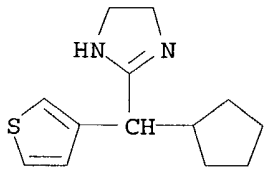


Species elected

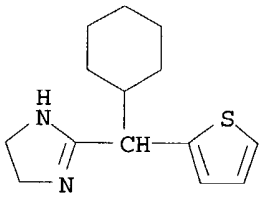
IT **681821-51-2P**, 2-[(Cyclopentyl)(thiophen-3-yl)methyl]-4,5-dihydro-1H-imidazole **681821-52-3P**, 2-[(Cyclohexyl)(thiophen-2-yl)methyl]-4,5-dihydro-1H-imidazole **681821-56-7P**, 2-[(Cyclohexyl)(thiophen-3-yl)methyl]-4-methyl-4,5-dihydro-1H-imidazole **681821-57-8P**, 2-[(Cyclohexyl)(thiophen-3-yl)methyl]-4,4-dimethyl-4,5-dihydro-1H-imidazole **681821-58-9P**, 2-[(4-Methylcyclohexyl)(thiophen-3-yl)methyl]-4,5-dihydro-1H-imidazole **681821-59-0P**, 2-[(Cyclohexyl)(1-methyl-1H-pyrrol-2-yl)methyl]-4,5-dihydro-1H-imidazole **681821-60-3P**, 2-[(Cyclohexyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]pyridine **681821-61-4P**, 2-[(Cycloheptyl)(thophen-

3yl)methyl]-4,5-dihydro-1H-imidazole **681821-62-5P**,
2-[(Cycloheptyl)(thiophen-3-yl)methyl]-4-methyl-4,5-dihydro-1H-imidazole
681821-63-6P 681821-64-7P
RL: ADV (Adverse effect, including toxicity); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hypoglycemic agent; preparation of imidazolines for treating non-insulin dependent diabetes and hyperlipidemia associated with obesity)

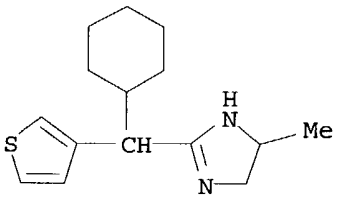
RN 681821-51-2 CAPLUS
CN 1H-Imidazole, 2-(cyclopentyl-3-thienylmethyl)-4,5-dihydro- (9CI) (CA INDEX NAME)



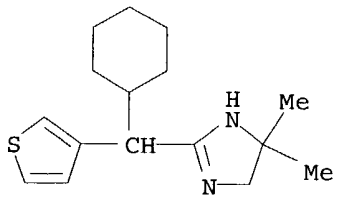
RN 681821-52-3 CAPLUS
CN 1H-Imidazole, 2-(cyclohexyl-2-thienylmethyl)-4,5-dihydro- (9CI) (CA INDEX NAME)



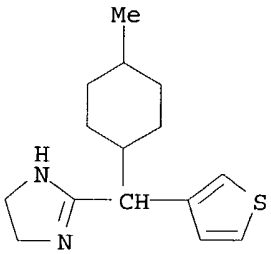
RN 681821-56-7 CAPLUS
CN 1H-Imidazole, 2-(cyclohexyl-3-thienylmethyl)-4,5-dihydro-4-methyl- (9CI) (CA INDEX NAME)



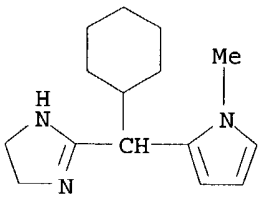
RN 681821-57-8 CAPLUS
CN 1H-Imidazole, 2-(cyclohexyl-3-thienylmethyl)-4,5-dihydro-4,4-dimethyl- (9CI) (CA INDEX NAME)



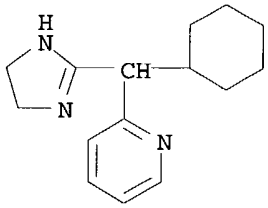
RN 681821-58-9 CAPLUS
CN 1H-Imidazole, 4,5-dihydro-2-[(4-methylcyclohexyl)-3-thienylmethyl]- (9CI) (CA INDEX NAME)



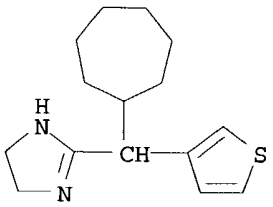
RN 681821-59-0 CAPLUS
CN 1H-Imidazole, 2-[cyclohexyl(1-methyl-1H-pyrrol-2-yl)methyl]-4,5-dihydro- (9CI) (CA INDEX NAME)



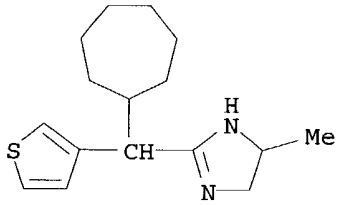
RN 681821-60-3 CAPLUS
CN Pyridine, 2-[cyclohexyl(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



RN 681821-61-4 CAPLUS
CN 1H-Imidazole, 2-(cycloheptyl-3-thienylmethyl)-4,5-dihydro- (9CI) (CA INDEX NAME)

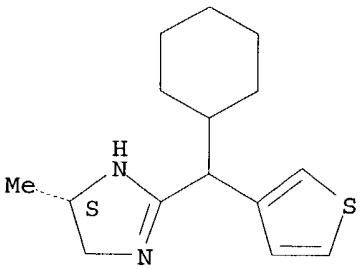


RN 681821-62-5 CAPLUS
CN 1H-Imidazole, 2-(cycloheptyl-3-thienylmethyl)-4,5-dihydro-4-methyl- (9CI) (CA INDEX NAME)



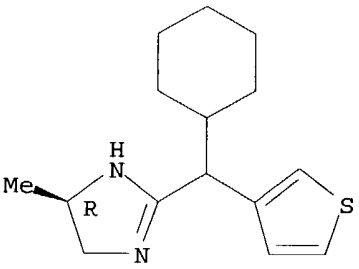
RN 681821-63-6 CAPLUS
CN 1H-Imidazole, 2-(cyclohexyl-3-thienylmethyl)-4,5-dihydro-4-methyl-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 681821-64-7 CAPLUS
CN 1H-Imidazole, 2-(cyclohexyl-3-thienylmethyl)-4,5-dihydro-4-methyl-, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

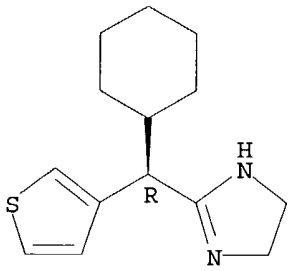


IT **681821-54-5P 681821-55-6P**

RL: ADV (Adverse effect, including toxicity); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of imidazolines for treating non-insulin dependent diabetes and hyperlipidemia associated with obesity)

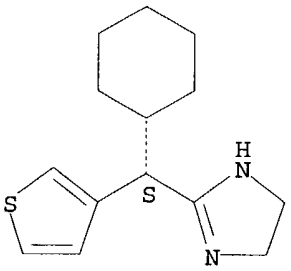
RN 681821-54-5 CAPLUS
CN 1H-Imidazole, 2-[(R)-cyclohexyl-3-thienylmethyl]-4,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 681821-55-6 CAPLUS
CN 1H-Imidazole, 2-[(S)-cyclohexyl-3-thienylmethyl]-4,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

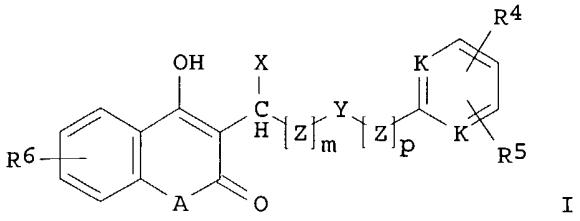


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:912361 CAPLUS
DOCUMENT NUMBER: 139:395813
TITLE: Preparation of 3-substituted 4-hydroxycoumarins as rodenticides
INVENTOR(S): Whittle, Alan John; Swanborough, Joseph John; Parry, David Rees; Knee, Andrew Jonathan; Sunley, Raymond Leo
PATENT ASSIGNEE(S): Syngenta Limited, UK
SOURCE: Brit. UK Pat. Appl., 70 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2388596	A1	20031119	GB 2002-21679	20020918

PRIORITY APPLN. INFO.: GB 2002-11019 A 20020514
OTHER SOURCE(S): MARPAT 139:395813
GI

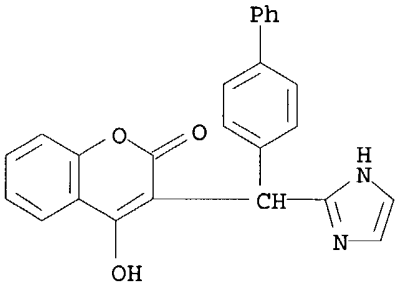


I

AB The rodenticidal compds. [I; A = O, S; K = CH, N; X = (un)substituted Ph, 2-pyrimidinyl, thienyl, etc.; Y = (un)substituted 1,4-phenylene, 2,5-pyrimidylene; Z = O, S, (CH2)n, alkenylene, etc.; R4-R6 = H, halo, CN, alkyl, etc.; n = 1-2; m , p = 0-1], were prepared Thus, refluxing 4-hydroxycoumarin with (4'-bromobiphenyl-4-yl)furan-2-ylmethanol (preparation given) in PhMe afforded 3-[(4'-bromobiphenyl-4-yl)furan-2-ylmethyl]-4-hydroxycoumarin which showed 100% mortality in test on Rattus norvegicus at 40 mg/kg.

IT **625451-12-9P**
RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 3-substituted 4-hydroxycoumarins as rodenticides)

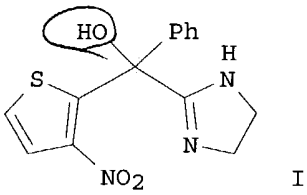
RN 625451-12-9 CAPLUS
CN 2H-1-Benzopyran-2-one, 3-([1,1'-biphenyl]-4-yl-1H-imidazol-2-ylmethyl)-4-hydroxy- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:386058 CAPLUS
DOCUMENT NUMBER: 133:237923
TITLE: Carbon-carbon bond formation via thermal intermolecular hydrogen atom transfer: two serendipitous heterocyclic examples
AUTHOR(S): Hamlyn, Richard J.; Jones, Richard H.; Ramsden, Christopher A.

CORPORATE SOURCE: School of Chemistry and Physics, Keele University, Keele, ST5 5BG, UK
SOURCE: Perkin 1 (2000), (12), 1811-1813
CODEN: PERKF9
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:237923
GI



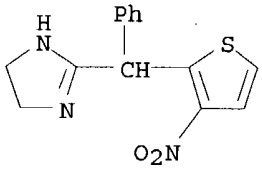
I

AB Formation of an anomalous 3-nitrothiophene product, encountered during the preparation of potential bioreductive anti-cancer agents, is rationalized in terms of a hydrogen atom transfer mechanism which also accounts for the unexpected formation of previously described 5,5'-biimidazoles. Thus, reaction of 2-chloro-3-nitrothiophene with 2-benzyl-4,5-dihydro-1H-imidazole in propionitrile containing mol. sieves gave 62% imidazolylthienylmethanol I, which was x-ray crystallog. characterized.

IT **292862-93-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 292862-93-2 CAPLUS

CN 1H-Imidazole, 4,5-dihydro-2-[(3-nitro-2-thienyl)phenylmethyl]-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:671157 CAPLUS
DOCUMENT NUMBER: 119:271157
TITLE: Fused benzeneoxyacetic acid derivative PGI2 receptor agonists

INVENTOR(S): Hamanaka, Nobuyuki; Takahashi, Kanji; Tokumoto, Hidekado
PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 110 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 548949	A2	19930630	EP 1992-121898	19921223
EP 548949	A3	19931006		
EP 548949	B1	19970917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 05178832	A2	19930720	JP 1991-360502	19911227
JP 07025854	A2	19950127	JP 1992-209587	19920714
US 5461045	A	19951024	US 1992-912999	19920714
CA 2073917	AA	19940116	CA 1992-2073917	19920715
CA 2085844	AA	19930628	CA 1992-2085844	19921218
AT 158282	E	19971015	AT 1992-121898	19921223
ES 2108076	T3	19971216	ES 1992-121898	19921223
US 5389666	A	19950214	US 1992-997492	19921228
JP 07145057	A2	19950606	JP 1992-360608	19921228
JP 3419009	B2	20030623		
US 5589496	A	19961231	US 1994-334395	19941103
US 5849919	A	19981215	US 1996-722456	19960927
US 5962439	A	19991005	US 1998-168424	19981007

PRIORITY APPLN. INFO.:
JP 1991-360502 A 19911227
JP 1992-209587 A 19920714
US 1992-997492 A3 19921228
US 1994-334395 A3 19941103
US 1996-722456 A3 19960927

OTHER SOURCE(S): MARPAT 119:271157

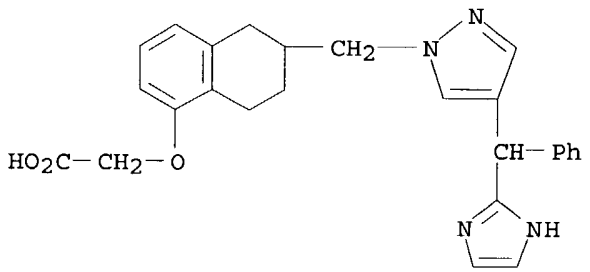
GI For diagram(s), see printed CA Issue.

AB The title compds. I [A = (un)substituted heterocyclyl; B = alkylene, alkenylene; ring D = carbocyclic ring; R1 = HO, C1-12 alkoxy, (un)substituted amino], which demonstrate PGI2 receptor agonist activity and are useful in the treatment of thrombosis, arteriosclerosis, ischemic heart diseases, gastric ulcer, or hypertension (no data), are prepared and I-containing formulations presented. Thus, pyrazole derivative II was prepared which demonstrated 50% inhibitory concentration against human blood platelet aggregation of 0.043 μM in human blood-derived. platelet-rich plasma.

IT **150558-89-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(PGI2 receptor agonist activity of)

RN 150558-89-7 CAPLUS

CN Acetic acid, [[5,6,7,8-tetrahydro-6-[[4-(1H-imidazol-2-ylphenylmethyl)-1H-pyrazol-1-yl]methyl]-1-naphthalenyl]oxy]- (9CI) (CA INDEX NAME)

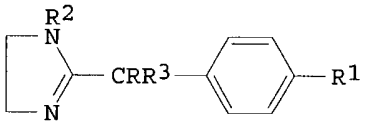


L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:150628 CAPLUS
DOCUMENT NUMBER: 84:150628
TITLE: 2-[α-(2-Pyridyl)benzyl]imidazolines and derivatives
INVENTOR(S): Walter, Lewis A.
PATENT ASSIGNEE(S): Schering A.-G., USA
SOURCE: U.S., 9 pp. Continuation of U.S. 3,770,737. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3932431	A	19760113	US 1973-412852	19731105
SU 382284	D	19730522	SU 1969-1387182	19690207
US 3770737	A	19731106	US 1970-49578	19700624
US 4081544	A	19780328	US 1976-754396	19761227

PRIORITY APPLN. INFO.:
US 1968-704263 19680209
US 1970-49578 19700624
SU 1969-1315880 19690207
US 1973-412852 19731105
US 1975-637498 19751204

GI



I

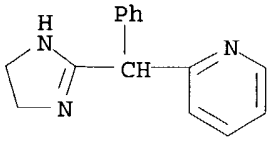
AB Imidazolines I (R = 2-pyridyl, 2-thiazolyl, 2-pyrazinyl, 6-chloro-2-pyridyl, R1 = H, Cl, R2 = H, Me, Me2NCH2CH2, Ac, R3 = H, Me, OH), effective against Parkinson's disease in doses of 0.1-3 mg/kg daily and useful as antidepressants and inflammation inhibitors, were obtained by condensation of a heterocyclic nitrile with a diamine in the presence of S.

IT **24767-53-1P 24767-55-3P 24767-57-5P**
24783-44-6P 24783-45-7P 46864-37-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24767-53-1 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-1-yl)phenylmethyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

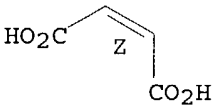
CRN 24783-44-6
CMF C15 H15 N3



CM 2

CRN 110-16-7
CMF C4 H4 O4

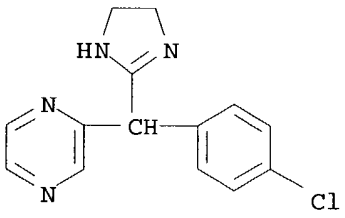
Double bond geometry as shown.



RN 24767-55-3 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

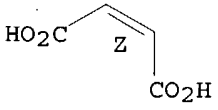
CRN 24783-45-7
CMF C14 H13 Cl N4



CM 2

CRN 110-16-7
CMF C4 H4 O4

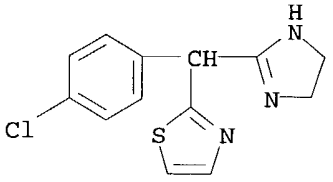
Double bond geometry as shown.



RN 24767-57-5 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

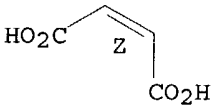
CRN 46864-37-3
CMF C13 H12 Cl N3 S



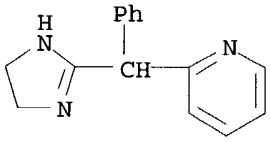
CM 2

CRN 110-16-7
CMF C4 H4 O4

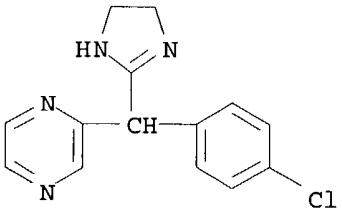
Double bond geometry as shown.



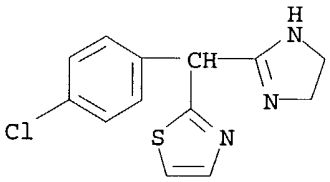
RN 24783-44-6 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-2-yl)phenylmethyl]- (9CI) (CA INDEX NAME)



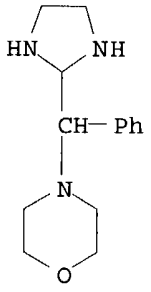
RN 24783-45-7 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



RN 46864-37-3 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1973:418667 CAPLUS
DOCUMENT NUMBER: 79:18667
TITLE: Reaction of 1,2-(dialkylamino)ethanes with α-substituted aldehydes and ketones. Formation of cyclic aminals and tetrahydropyrazine
AUTHOR(S): Duhamel, Pierre; Duhamel, Lucette; Siret, Patrice
CORPORATE SOURCE: Lab. Chim. Org., Fac. Sci. Tech. Rouen, Mont-Saint-Aignan, Fr.
SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1973), 276(15), 1319-22
CODEN: CHDCAQ; ISSN: 0567-6541
DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 79:18667
GI For diagram(s), see printed CA Issue.
AB Ten aminals (I, R = Me, Et; R1 = Et, Me3C, Ph, etc.; R2 = Cl, Br, Et3N, etc.) were prepared from R1R2CHCHO and RNHCH2CH2NHR. I heated at 180° gave tetrahydropyrazines II.
IT **41711-84-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 41711-84-6 CAPLUS
CN Morpholine, 4-(2-imidazolidinylphenylmethyl)- (9CI) (CA INDEX NAME)



L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:31790 CAPLUS
DOCUMENT NUMBER: 72:31790
TITLE: Cyclic amidines
INVENTOR(S): Walter, Lewis A.
PATENT ASSIGNEE(S): Scherico Ltd.
SOURCE: Ger. Offen., 71 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1905353	A	19690904	DE 1969-1905353	19690204
DE 1905353	B2	19781221		
DE 1905353	C3	19790830		
CH 515254	A	19711115	CH 1969-515254	19690204
AT 294819	B	19711210	AT 1970-4263	19690204
GB 1259005	A	19720105	GB 1969-1259005	19690204
AT 295520	B	19720110	AT 1970-4264	19690204
CH 521363	A	19720415	CH 1969-521363	19690204
CH 521364	A	19720415	CH 1969-521364	19690204
CH 521362	A	19720415	CH 1969-521362	19690204
NO 126228	B	19730108	NO 1969-408	19690204
CA 941829	A1	19740212	CA 1969-42002	19690204
BE 727951	A	19690805	BE 1969-727951	19690205
BR 6906150	A0	19730412	BR 1969-206150	19690205
SE 372946	B	19750120	SE 1969-1538	19690205
JP 51014514	B4	19760510	JP 1969-8194	19690205
FR 2001655	A5	19690926	FR 1969-2936	19690207
SU 365883	D	19730108	SU 1969-1315880	19690207
SU 382284	D	19730522	SU 1969-1387182	19690207
CS 154613	P	19740430	CS 1970-5800	19690207
CS 154614	P	19740430	CS 1970-5801	19690207

PRIORITY APPLN. INFO.: US 1968-704263 19680209
SU 1969-1315880 19690207

GI For diagram(s), see printed CA Issue.

AB Cyclic amidines with antidepressive activity were prepared Thus, a mixture of α-(2-pyridyl)benzyl cyanide 19.4, ethylenediamine 6.6, and S 0.2 g was refluxed 5 hr under N to give I (R = R1 = H), m. 134-6°; maleate m. 132-5°. A mixture of 15 g finely divided NaNH2, 10 g PhNHMe, and 400 ml Et2O was refluxed 1 hr, treated with 14 g N-methyl-N-phenylcyanamide and 15 g p-chlorobenzyl cyanide and refluxed 1 hr to give p-chlorophenylmalononitrile (II). Anhydrous H2S (8 g) was added at 20-5° to a solution of 20 g II and 20 g Et3N in 200 ml HCONMe2 and the mixture kept 5 hr to give α-(p-chlorophenyl)-α-cyanothioacetamide, which (20 g), 6.6 g ethylenediamine, and 500 ml C6H6 was refluxed 6 hr to give 2-(α-cyano-p-chlorobenzyl)imidazolin e (III). Et3N (10 g) and 10 g anhydrous H2S were successively added to a solution of 2 0 g III in 200 ml HCONMe2 and the mixture was kept overnight at 20-5 °. The crude product was treated with an equivalent amount ClCH2CHO in 100 ml EtOH and the mixture was kept 0.5 hr at 10° and refluxed 0.5 hr to give IV as the maleate, m. 145-7°. A mixture of 25 g Me α-(2-pyridyl)-p-chlorophenylacetate and ethylenediamine was refluxed 10 hr and the product dissolved in 500 ml xylene and refluxed under N to give I (R = H, R1 = Cl); maleate m. 156-8°. A solution of oily III, prepared as above, in 200 ml absolute EtOH was saturated with anhydrous HCl at 0°, kept 24 hr at 20-5°, evaporated in vacuo at <30°, dissolved in 100 ml anhydrous EtOH, added to 200 ml EtOH saturated with NH3, and stirred 2 hr at 20-5°. The product was added in 100 ml EtOH to an aqueous alc. solution of malonaldehyde and the mixture refluxed 3 hr under N to give V, b. 180-3°. 2-[α-(2-Pyridyl)benzyl]imidazoline (16 g) was added to a stirred suspension of 8.5 g NaNH2 in 300 ml liquid NH3. After 10 min, the mixture was added in a cooled autoclave to 15.8 g 2-bromopyridine and stirred 6 hr at 50° to give I (R = R1 = H), m. 135-6°, 20 g of which was dissolved in 500 ml anhydrous C6H6. The

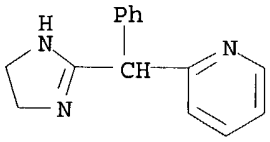
solution was stirred 20 hr in dry air to give I (R = OH, R1 = H), m. 152-4°; HCl salt m. 206-8°.

IT **24767-53-1P 24767-55-3P 24767-57-5P**
24783-44-6P 24783-45-7P 24784-28-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24767-53-1 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-1-yl)phenylmethyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

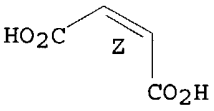
CRN 24783-44-6
CMF C15 H15 N3



CM 2

CRN 110-16-7
CMF C4 H4 O4

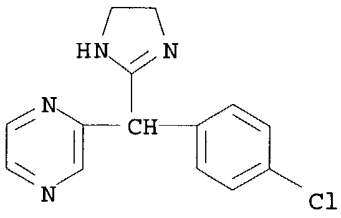
Double bond geometry as shown.



RN 24767-55-3 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

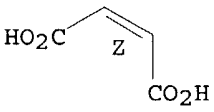
CRN 24783-45-7
CMF C14 H13 Cl N4



CM 2

CRN 110-16-7
CMF C4 H4 O4

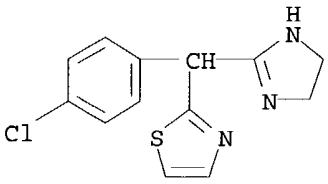
Double bond geometry as shown.



RN 24767-57-5 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

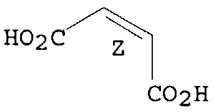
CRN 46864-37-3
CMF C13 H12 Cl N3 S



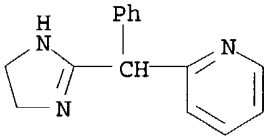
CM 2

CRN 110-16-7
CMF C4 H4 O4

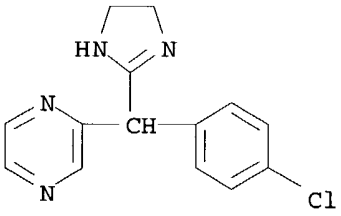
Double bond geometry as shown.



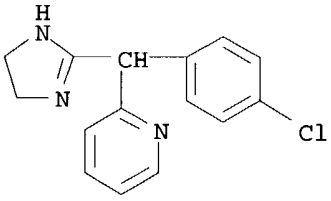
RN 24783-44-6 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-2-yl)phenylmethyl]- (9CI) (CA INDEX NAME)



RN 24783-45-7 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



RN 24784-28-9 CAPLUS
CN Pyridine, 2-(p-chloro-α-2-imidazolin-2-ylbenzyl)- (8CI) (CA INDEX NAME)



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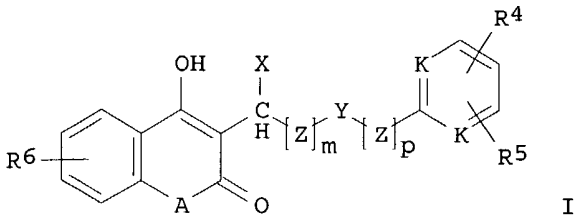
L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:912361 CAPLUS
DOCUMENT NUMBER: 139:395813
TITLE: Preparation of 3-substituted 4-hydroxycoumarins as rodenticides
INVENTOR(S): Whittle, Alan John; Swanborough, Joseph John; Parry, David Rees; Knee, Andrew Jonathan; Sunley, Raymond Leo
PATENT ASSIGNEE(S): Syngenta Limited, UK
SOURCE: Brit. UK Pat. Appl., 70 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2388596	A1	20031119	GB 2002-21679	20020918

PRIORITY APPLN. INFO.: GB 2002-11019 A 20020514
OTHER SOURCE(S): MARPAT 139:395813
GI



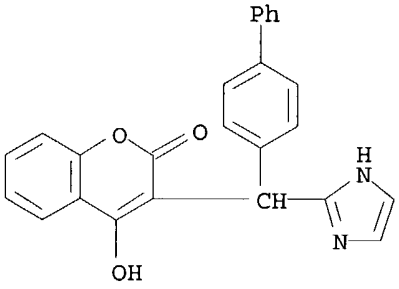
I

AB The rodenticidal compds. [I; A = O, S; K = CH, N; X = (un)substituted Ph, 2-pyrimidinyl, thienyl, etc.; Y = (un)substituted 1,4-phenylene, 2,5-pyrimidylene; Z = O, S, (CH2)n, alkenylene, etc.; R4-R6 = H, halo, CN, alkyl, etc.; n = 1-2; m , p = 0-1], were prepared **Thus**, refluxing 4-hydroxycoumarin with (4'-bromobiphenyl-4-yl)furan-2-ylmethanol (preparation given) in PhMe afforded 3-[(4'-bromobiphenyl-4-yl)furan-2-ylmethyl]-4-hydroxycoumarin which showed 100% mortality in test on Rattus norvegicus at 40 mg/kg.

IT **625451-12-9P**
RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 3-substituted 4-hydroxycoumarins as rodenticides)

RN 625451-12-9 CAPLUS

CN 2H-1-Benzopyran-2-one, 3-([1,1'-biphenyl]-4-yl-1H-imidazol-2-ylmethyl)-4-hydroxy- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:386058 CAPLUS

DOCUMENT NUMBER: 133:237923

TITLE: Carbon-carbon bond formation via thermal intermolecular hydrogen atom transfer: two serendipitous heterocyclic examples

AUTHOR(S): Hamlyn, Richard J.; Jones, Richard H.; Ramsden, Christopher A.

CORPORATE SOURCE: School of Chemistry and Physics, Keele University, Keele, ST5 5BG, UK

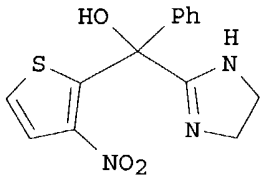
SOURCE: Perkin 1 (2000), (12), 1811-1813
CODEN: PERKF9

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:237923
GI



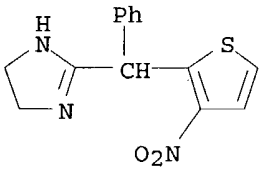
I

AB Formation of an anomalous 3-nitrothiophene product, encountered during the preparation of potential bioreductive anti-cancer agents, is rationalized in terms of a hydrogen atom transfer mechanism which also accounts for the unexpected formation of previously described 5,5'-biimidazoles. **Thus**, reaction of 2-chloro-3-nitrothiophene with 2-benzyl-4,5-dihydro-1H-imidazole in propionitrile containing mol. sieves gave 62% imidazolylthienylmethanol I, which was x-ray crystallog. characterized.

IT **292862-93-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 292862-93-2 CAPLUS

CN 1H-Imidazole, 4,5-dihydro-2-[(3-nitro-2-thienyl)phenylmethyl]-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:671157 CAPLUS
DOCUMENT NUMBER: 119:271157
TITLE: Fused benzeneoxyacetic acid derivative PGI2 receptor agonists
INVENTOR(S): Hamanaka, Nobuyuki; Takahashi, Kanji; Tokumoto, Hidekado
PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 110 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 548949	A2	19930630	EP 1992-121898	19921223
EP 548949	A3	19931006		
EP 548949	B1	19970917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 05178832	A2	19930720	JP 1991-360502	19911227
JP 07025854	A2	19950127	JP 1992-209587	19920714
US 5461045	A	19951024	US 1992-912999	19920714
CA 2073917	AA	19940116	CA 1992-2073917	19920715
CA 2085844	AA	19930628	CA 1992-2085844	19921218
AT 158282	E	19971015	AT 1992-121898	19921223
ES 2108076	T3	19971216	ES 1992-121898	19921223
US 5389666	A	19950214	US 1992-997492	19921228
JP 07145057	A2	19950606	JP 1992-360608	19921228
JP 3419009	B2	20030623		
US 5589496	A	19961231	US 1994-334395	19941103
US 5849919	A	19981215	US 1996-722456	19960927
US 5962439	A	19991005	US 1998-168424	19981007

PRIORITY APPLN. INFO.:
JP 1991-360502 A 19911227
JP 1992-209587 A 19920714
US 1992-997492 A3 19921228
US 1994-334395 A3 19941103
US 1996-722456 A3 19960927

OTHER SOURCE(S): MARPAT 119:271157

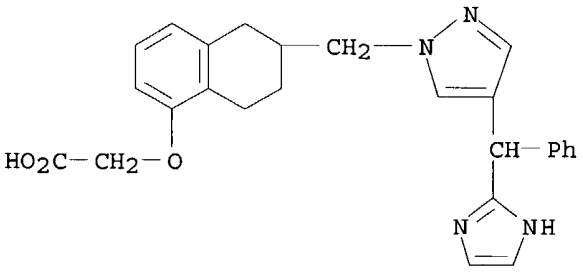
GI For diagram(s), see printed CA Issue.

AB The title compds. I [A = (un)substituted heterocyclyl; B = alkylene, alkenylene; ring D = carbocyclic ring; R1 = HO, C1-12 alkoxy, (un)substituted amino], which demonstrate PGI2 receptor agonist activity and are useful in the treatment of thrombosis, arteriosclerosis, ischemic heart diseases, gastric ulcer, or hypertension (no data), are prepared and I-containing formulations presented. **Thus**, pyrazole derivative II was prepared which demonstrated 50% inhibitory concentration against human blood platelet aggregation of 0.043 μM in human blood-derived. platelet-rich plasma.

IT **150558-89-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(PGI2 receptor agonist activity of)

RN 150558-89-7 CAPLUS

CN Acetic acid, [[5,6,7,8-tetrahydro-6-[[4-(1H-imidazol-2-ylphenylmethyl)-1H-pyrazol-1-yl]methyl]-1-naphthalenyl]oxy]- (9CI) (CA INDEX NAME)



L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:31790 CAPLUS
DOCUMENT NUMBER: 72:31790
TITLE: Cyclic amidines
INVENTOR(S): Walter, Lewis A.

PATENT ASSIGNEE(S): Scherico Ltd.
SOURCE: Ger. Offen., 71 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1905353	A	19690904	DE 1969-1905353	19690204
DE 1905353	B2	19781221		
DE 1905353	C3	19790830		
CH 515254	A	19711115	CH 1969-515254	19690204
AT 294819	B	19711210	AT 1970-4263	19690204
GB 1259005	A	19720105	GB 1969-1259005	19690204
AT 295520	B	19720110	AT 1970-4264	19690204
CH 521363	A	19720415	CH 1969-521363	19690204
CH 521364	A	19720415	CH 1969-521364	19690204
CH 521362	A	19720415	CH 1969-521362	19690204
NO 126228	B	19730108	NO 1969-408	19690204
CA 941829	A1	19740212	CA 1969-42002	19690204
BE 727951	A	19690805	BE 1969-727951	19690205
BR 6906150	A0	19730412	BR 1969-206150	19690205
SE 372946	B	19750120	SE 1969-1538	19690205
JP 51014514	B4	19760510	JP 1969-8194	19690205
FR 2001655	A5	19690926	FR 1969-2936	19690207
SU 365883	D	19730108	SU 1969-1315880	19690207
SU 382284	D	19730522	SU 1969-1387182	19690207
CS 154613	P	19740430	CS 1970-5800	19690207
CS 154614	P	19740430	CS 1970-5801	19690207

PRIORITY APPLN. INFO.: US 1968-704263 19680209
SU 1969-1315880 19690207

GI For diagram(s), see printed CA Issue.

AB Cyclic amidines with antidepressive activity were prepared **Thus**, a mixture of α-(2-pyridyl)benzyl cyanide 19.4, ethylenediamine 6.6, and S 0.2 g was refluxed 5 hr under N to give I (R = R1 = H), m. 134-6°; maleate m. 132-5°. A mixture of 15 g finely divided NaNH2, 10 g PhNHMe, and 400 ml Et2O was refluxed 1 hr, treated with 14 g N-methyl-N-phenylcyanamide and 15 g p-chlorobenzyl cyanide and refluxed 1 hr to give p-chlorophenylmalononitrile (II). Anhydrous H2S (8 g) was added at 20-5° to a solution of 20 g II and 20 g Et3N in 200 ml HCONMe2 and the mixture kept 5 hr to give α-(p-chlorophenyl)-α-cyanothioacetamide, which (20 g), 6.6 g ethylenediamine, and 500 ml C6H6 was refluxed 6 hr to give 2-(α-cyano-p-chlorobenzyl)imidazolin e (III). Et3N (10 g) and 10 g anhydrous H2S were successively added to a solution of 2 0 g III in 200 ml HCONMe2 and the mixture was kept overnight at 20-5 °. The crude product was treated with an equivalent amount ClCH2CHO in 100 ml EtOH and the mixture was kept 0.5 hr at 10° and refluxed 0.5 hr to give IV as the maleate, m. 145-7°. A mixture of 25 g Me α-(2-pyridyl)-p-chlorophenylacetate and ethylenediamine was refluxed 10 hr and the product dissolved in 500 ml xylene and refluxed under N to give I (R = H, R1 = Cl); maleate m. 156-8°. A solution of oily III, prepared as above, in 200 ml absolute EtOH was saturated with anhydrous HCl at 0°, kept 24 hr at 20-5°, evaporated in vacuo at <30°, dissolved in 100 ml anhydrous EtOH, added to 200 ml EtOH saturated with NH3, and stirred 2 hr at 20-5°. The product was added in 100 ml EtOH to an aqueous alc. solution of malonaldehyde and the mixture refluxed 3 hr under N to

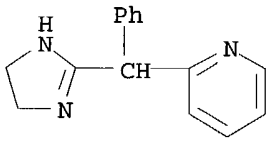
give V, b. 180-3°. 2-[α-(2-Pyridyl)benzyl]imidazoline (16 g) was added to a stirred suspension of 8.5 g NaNH2 in 300 ml liquid NH3. After 10 min, the mixture was added in a cooled autoclave to 15.8 g 2-bromopyridine and stirred 6 hr at 50° to give I (R = R1 = H), m. 135-6°, 20 g of which was dissolved in 500 ml anhydrous C6H6. The solution was stirred 20 hr in dry air to give I (R = OH, R1 = H), m. 152-4°; HCl salt m. 206-8°.

IT **24767-53-1P 24767-55-3P 24767-57-5P**
24783-44-6P 24783-45-7P 24784-28-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24767-53-1 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-1-yl)phenylmethyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

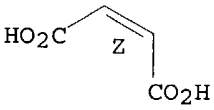
CRN 24783-44-6
CMF C15 H15 N3



CM 2

CRN 110-16-7
CMF C4 H4 O4

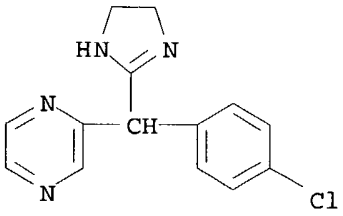
Double bond geometry as shown.



RN 24767-55-3 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

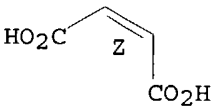
CRN 24783-45-7
CMF C14 H13 Cl N4



CM 2

CRN 110-16-7
CMF C4 H4 O4

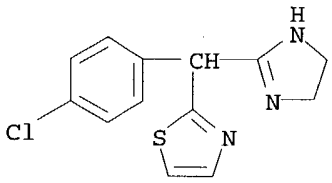
Double bond geometry as shown.



RN 24767-57-5 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

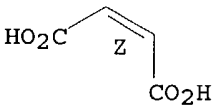
CRN 46864-37-3
CMF C13 H12 Cl N3 S



CM 2

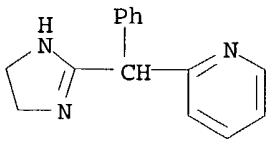
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

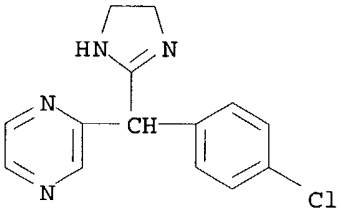


RN 24783-44-6 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-2-yl)phenylmethyl]- (9CI) (CA INDEX

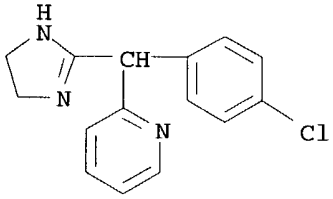
NAME)



RN 24783-45-7 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



RN 24784-28-9 CAPLUS
CN Pyridine, 2-(p-chloro-α-2-imidazolin-2-ylbenzyl)- (8CI) (CA INDEX NAME)



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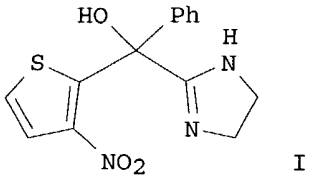
L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:386058 CAPLUS
DOCUMENT NUMBER: 133:237923
TITLE: Carbon-carbon bond formation via thermal intermolecular hydrogen atom transfer: two serendipitous heterocyclic examples
AUTHOR(S): Hamlyn, Richard J.; Jones, Richard H.; Ramsden, Christopher A.
CORPORATE SOURCE: School of Chemistry and Physics, Keele University, Keele, ST5 5BG, UK
SOURCE: Perkin 1 (**2000**), (12), 1811-1813
CODEN: PERKF9
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:237923
GI

10689394



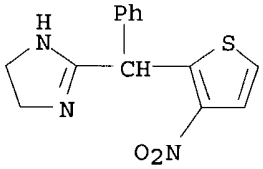
I

AB Formation of an anomalous 3-nitrothiophene product, encountered during the preparation of potential bioreductive anti-cancer agents, is rationalized in terms of a hydrogen atom transfer mechanism which also accounts for the unexpected formation of previously described 5,5'-biimidazoles. Thus, reaction of 2-chloro-3-nitrothiophene with 2-benzyl-4,5-dihydro-1H-imidazole in propionitrile containing mol. sieves gave 62% imidazolylthienylmethanol I, which was x-ray crystallog. characterized.

IT **292862-93-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 292862-93-2 CAPLUS

CN 1H-Imidazole, 4,5-dihydro-2-[(3-nitro-2-thienyl)phenylmethyl]-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:671157 CAPLUS
DOCUMENT NUMBER: 119:271157
TITLE: Fused benzeneoxyacetic acid derivative PGI2 receptor agonists
INVENTOR(S): Hamanaka, Nobuyuki; Takahashi, Kanji; Tokumoto, Hidekado
PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 110 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 548949	A2	19930630	EP 1992-121898	19921223 <--
EP 548949	A3	19931006		

EP 548949	B1	19970917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 05178832	A2	19930720	JP 1991-360502	19911227 <--
JP 07025854	A2	19950127	JP 1992-209587	19920714 <--
US 5461045	A	19951024	US 1992-912999	19920714 <--
CA 2073917	AA	19940116	CA 1992-2073917	19920715 <--
CA 2085844	AA	19930628	CA 1992-2085844	19921218 <--
AT 158282	E	19971015	AT 1992-121898	19921223 <--
ES 2108076	T3	19971216	ES 1992-121898	19921223 <--
US 5389666	A	19950214	US 1992-997492	19921228 <--
JP 07145057	A2	19950606	JP 1992-360608	19921228 <--
JP 3419009	B2	20030623		
US 5589496	A	19961231	US 1994-334395	19941103 <--
US 5849919	A	19981215	US 1996-722456	19960927 <--
US 5962439	A	19991005	US 1998-168424	19981007 <--

PRIORITY APPLN. INFO.:

JP 1991-360502	A	19911227
JP 1992-209587	A	19920714
US 1992-997492	A3	19921228
US 1994-334395	A3	19941103
US 1996-722456	A3	19960927

OTHER SOURCE(S): MARPAT 119:271157

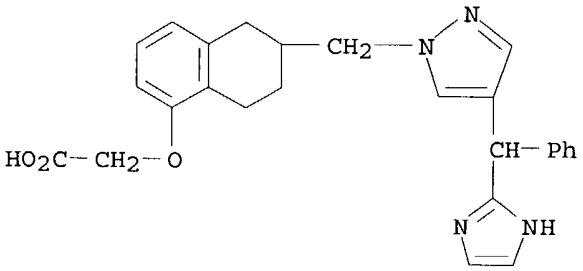
GI For diagram(s), see printed CA Issue.

AB The title compds. I [A = (un)substituted heterocyclyl; B = alkylene, alkenylene; ring D = carbocyclic ring; R1 = HO, C1-12 alkoxy, (un)substituted amino], which demonstrate PGI2 receptor agonist activity and are useful in the treatment of thrombosis, arteriosclerosis, ischemic heart diseases, gastric ulcer, or hypertension (no data), are prepared and I-containing formulations presented. Thus, pyrazole derivative II was prepared which demonstrated 50% inhibitory concentration against human blood platelet aggregation of 0.043 μM in human blood-derived. platelet-rich plasma.

IT **150558-89-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(PGI2 receptor agonist activity of)

RN 150558-89-7 CAPLUS

CN Acetic acid, [[5,6,7,8-tetrahydro-6-[[4-(1H-imidazol-2-ylphenylmethyl)-1H-pyrazol-1-yl]methyl]-1-naphthalenyl]oxy]- (9CI) (CA INDEX NAME)



L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	1976:150628 CAPLUS
DOCUMENT NUMBER:	84:150628
TITLE:	2-[α-(2-Pyridyl)benzyl]imidazolines and derivatives
INVENTOR(S):	Walter, Lewis A.
PATENT ASSIGNEE(S):	Schering A.-G., USA
SOURCE:	U.S., 9 pp. Continuation of U.S. 3,770,737. CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3932431	A	19760113	US 1973-412852	19731105 <--
SU 382284	D	19730522	SU 1969-1387182	19690207 <--
US 3770737	A	19731106	US 1970-49578	19700624 <--
US 4081544	A	19780328	US 1976-754396	19761227 <--

PRIORITY APPLN. INFO.:

US 1968-704263	19680209
US 1970-49578	19700624
SU 1969-1315880	19690207
US 1973-412852	19731105
US 1975-637498	19751204

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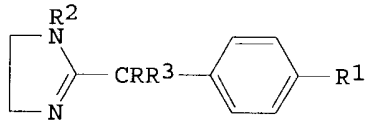


I

AB Imidazolines I (R = 2-pyridyl, 2-thiazolyl, 2-pyrazinyl, 6-chloro-2-pyridyl, R1 = H, Cl, R2 = H, Me, Me2NCH2CH2, Ac, R3 = H, Me, OH), effective against Parkinson's disease in doses of 0.1-3 mg/kg daily and useful as antidepressants and inflammation inhibitors, were obtained by condensation of a heterocyclic nitrile with a diamine in the presence of S.

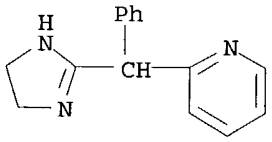
IT **24767-53-1P 24767-55-3P 24767-57-5P**
24783-44-6P 24783-45-7P 46864-37-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24767-53-1 CAPLUS

CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-1-yl)phenylmethyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

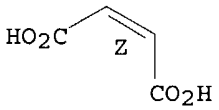
CRN 24783-44-6
CMF C15 H15 N3



CM 2

CRN 110-16-7
CMF C4 H4 O4

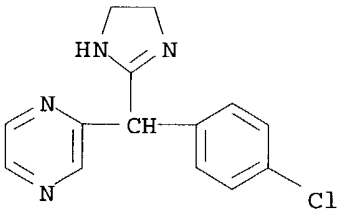
Double bond geometry as shown.



RN 24767-55-3 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

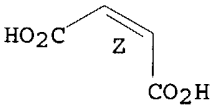
CRN 24783-45-7
CMF C14 H13 Cl N4



CM 2

CRN 110-16-7
CMF C4 H4 O4

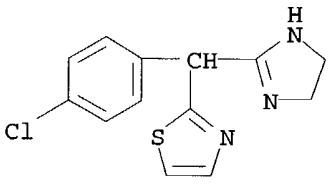
Double bond geometry as shown.



RN 24767-57-5 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

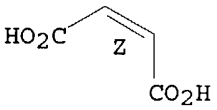
CRN 46864-37-3
CMF C13 H12 Cl N3 S



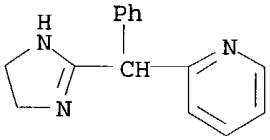
CM 2

CRN 110-16-7
CMF C4 H4 O4

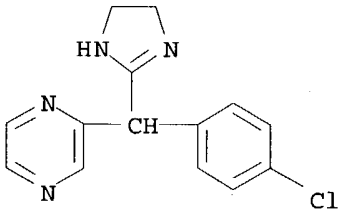
Double bond geometry as shown.



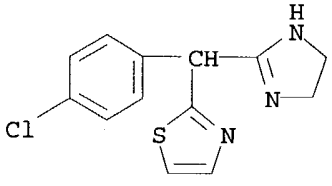
RN 24783-44-6 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-2-yl)phenylmethyl]- (9CI) (CA INDEX NAME)



RN 24783-45-7 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)

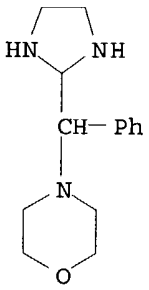


RN 46864-37-3 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



L6 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1973:418667 CAPLUS
DOCUMENT NUMBER: 79:18667

TITLE: Reaction of 1,2-(dialkylamino)ethanes with α-substituted aldehydes and ketones. Formation of cyclic aminals and tetrahydropyrazine
AUTHOR(S): Duhamel, Pierre; Duhamel, Lucette; Siret, Patrice
CORPORATE SOURCE: Lab. Chim. Org., Fac. Sci. Tech. Rouen, Mont-Saint-Aignan, Fr.
SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (**1973**), 276(15), 1319-22
CODEN: CHDCAQ; ISSN: 0567-6541
DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 79:18667
GI For diagram(s), see printed CA Issue.
AB Ten aminals (I, R = Me, Et; R1 = Et, Me3C, Ph, etc.; R2 = Cl, Br, Et3N, etc.) were prepared from R1R2CHCHO and RNHCH2CH2NHR. I heated at 180° gave tetrahydropyrazines II.
IT **41711-84-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 41711-84-6 CAPLUS
CN Morpholine, 4-(2-imidazolidinylphenylmethyl)- (9CI) (CA INDEX NAME)



L6 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:31790 CAPLUS
DOCUMENT NUMBER: 72:31790
TITLE: Cyclic amidines
INVENTOR(S): Walter, Lewis A.
PATENT ASSIGNEE(S): Scherico Ltd.
SOURCE: Ger. Offen., 71 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1905353	A	19690904	DE 1969-1905353	19690204 <--
DE 1905353	B2	19781221		
DE 1905353	C3	19790830		
CH 515254	A	19711115	CH 1969-515254	19690204 <--
AT 294819	B	19711210	AT 1970-4263	19690204 <--
GB 1259005	A	19720105	GB 1969-1259005	19690204 <--
AT 295520	B	19720110	AT 1970-4264	19690204 <--
CH 521363	A	19720415	CH 1969-521363	19690204 <--

CH 521364	A	19720415	CH 1969-521364	19690204 <--
CH 521362	A	19720415	CH 1969-521362	19690204 <--
NO 126228	B	19730108	NO 1969-408	19690204 <--
CA 941829	A1	19740212	CA 1969-42002	19690204 <--
BE 727951	A	19690805	BE 1969-727951	19690205 <--
BR 6906150	A0	19730412	BR 1969-206150	19690205 <--
SE 372946	B	19750120	SE 1969-1538	19690205 <--
JP 51014514	B4	19760510	JP 1969-8194	19690205 <--
FR 2001655	A5	19690926	FR 1969-2936	19690207 <--
SU 365883	D	19730108	SU 1969-1315880	19690207 <--
SU 382284	D	19730522	SU 1969-1387182	19690207 <--
CS 154613	P	19740430	CS 1970-5800	19690207 <--
CS 154614	P	19740430	CS 1970-5801	19690207 <--

PRIORITY APPLN. INFO.: US 1968-704263 19680209
SU 1969-1315880 19690207

GI For diagram(s), see printed CA Issue.

AB Cyclic amidines with antidepressive activity were prepared Thus, a mixture of α-(2-pyridyl)benzyl cyanide 19.4, ethylenediamine 6.6, and S 0.2 g was refluxed 5 hr under N to give I (R = R1 = H), m. 134-6°; maleate m. 132-5°. A mixture of 15 g finely divided NaNH2, 10 g PhNHMe, and 400 ml Et2O was refluxed 1 hr, treated with 14 g N-methyl-N-phenylcyanamide and 15 g p-chlorobenzyl cyanide and refluxed 1 hr to give p-chlorophenylmalononitrile (II). Anhydrous H2S (8 g) was added at 20-5° to a solution of 20 g II and 20 g Et3N in 200 ml HCONMe2 and the mixture kept 5 hr to give α-(p-chlorophenyl)-α-cyanothioacetamide, which (20 g), 6.6 g ethylenediamine, and 500 ml C6H6 was refluxed 6 hr to give 2-(α-cyano-p-chlorobenzyl)imidazolin e (III). Et3N (10 g) and 10 g anhydrous H2S were successively added to a solution of 2 0 g III in 200 ml HCONMe2 and the mixture was kept overnight at 20-5°. The crude product was treated with an equivalent amount ClCH2CHO in 100 ml EtOH and the mixture was kept 0.5 hr at 10° and refluxed 0.5 hr to give IV as the maleate, m. 145-7°. A mixture of 25 g Me α-(2-pyridyl)-p-chlorophenylacetate and ethylenediamine was refluxed 10 hr and the product dissolved in 500 ml xylene and refluxed under N to give I (R = H, R1 = Cl); maleate m. 156-8°. A solution of oily III, prepared as above, in 200 ml absolute EtOH was saturated with anhydrous HCl at 0°, kept 24 hr at 20-5°, evaporated in vacuo at <30°, dissolved in 100 ml anhydrous EtOH, added to 200 ml EtOH saturated with NH3, and stirred 2 hr at 20-5°. The product was added in 100 ml EtOH to an aqueous alc. solution of malonaldehyde and the mixture refluxed 3 hr under N to give V, b. 180-3°. 2-[α-(2-Pyridyl)benzyl]imidazoline (16 g) was added to a stirred suspension of 8.5 g NaNH2 in 300 ml liquid NH3. After 10 min, the mixture was added in a cooled autoclave to 15.8 g 2-bromopyridine and stirred 6 hr at 50° to give I (R = R1 = H), m. 135-6°, 20 g of which was dissolved in 500 ml anhydrous C6H6. The solution was stirred 20 hr in dry air to give I (R = OH, R1 = H), m. 152-4°; HCl salt m. 206-8°.

IT **24767-53-1P 24767-55-3P 24767-57-5P**
24783-44-6P 24783-45-7P 24784-28-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

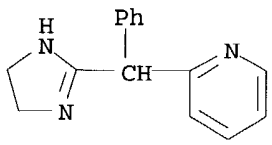
RN 24767-53-1 CAPLUS

CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-1-yl)phenylmethyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 24783-44-6

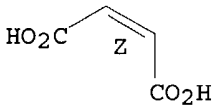
CMF C15 H15 N3



CM 2

CRN 110-16-7
CMF C4 H4 O4

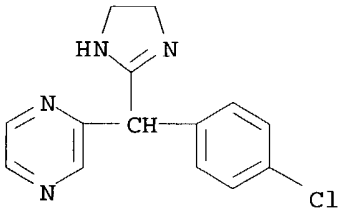
Double bond geometry as shown.



RN 24767-55-3 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-, (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

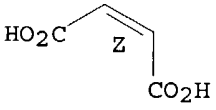
CRN 24783-45-7
CMF C14 H13 Cl N4



CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

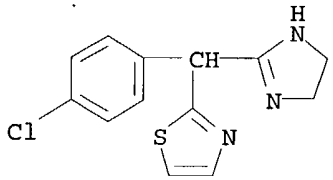


RN 24767-57-5 CAPLUS
CN Thiazole, 2-[(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]-,

(2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

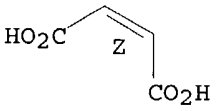
CRN 46864-37-3
CMF C13 H12 Cl N3 S



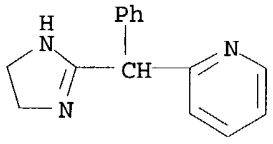
CM 2

CRN 110-16-7
CMF C4 H4 O4

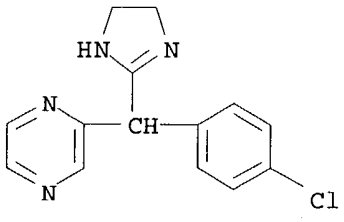
Double bond geometry as shown.



RN 24783-44-6 CAPLUS
CN Pyridine, 2-[(4,5-dihydro-1H-imidazol-2-yl)phenylmethyl]- (9CI) (CA INDEX NAME)

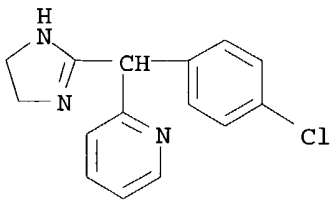


RN 24783-45-7 CAPLUS
CN Pyrazine, [(4-chlorophenyl)(4,5-dihydro-1H-imidazol-2-yl)methyl]- (9CI) (CA INDEX NAME)



RN 24784-28-9 CAPLUS
CN Pyridine, 2-(p-chloro-α-2-imidazolin-2-ylbenzyl)- (8CI) (CA INDEX

NAME)



=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	81.05	236.68

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-11.09	-11.09

STN INTERNATIONAL LOGOFF AT 08:57:38 ON 24 JUN 2004

Page 1 08:30 <golam shameem> 06/24/2004

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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	May 10	PROUSDDR now available on STN
NEWS	4	May 19	PROUSDDR: One FREE connect hour, per account, in both May and June 2004
NEWS	5	May 12	EXTEND option available in structure searching
NEWS	6	May 12	Polymer links for the POLYLINK command completed in REGISTRY
NEWS	7	May 17	FRFULL now available on STN
NEWS	8	May 27	New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus
NEWS	9	May 27	CAplus super roles and document types searchable in REGISTRY
NEWS	10	May 27	Explore APOLLIT with free connect time in June 2004
NEWS	11	Jun 22	STN Patent Forums to be held July 19-22, 2004

NEWS EXPRESS	MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
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NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

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FILE 'HOME' ENTERED AT 08:17:28 ON 24 JUN 2004

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an

FILE COVERS 1907 - 24 Jun 2004 VOL 140 ISS 26
FILE LAST UPDATED: 23 Jun 2004 (20040623/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3
L4 7 L3

=> d l4 ibib abs hitstr tot

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:610419 CAPLUS
DOCUMENT NUMBER: 139:149525
TITLE: Preparation of dihydroimidazolylmethylindoles and related compounds as α1 A/L adrenergic receptor agonists for use against incontinence and other disorders
INVENTOR(S): Greenhouse, Robert; Jaime-Figueroa, Saul; Raptova, Lubica
PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003064387	A2	20030807	WO 2003-EP644	20030123
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003220319	A1	20031127	US 2003-355588	20030131

PRIORITY APPLN. INFO.: US 2002-353508P P 20020201
US 2002-418492P P 20021015
OTHER SOURCE(S): MARPAT 139:149525

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:Atom 10:CLASS

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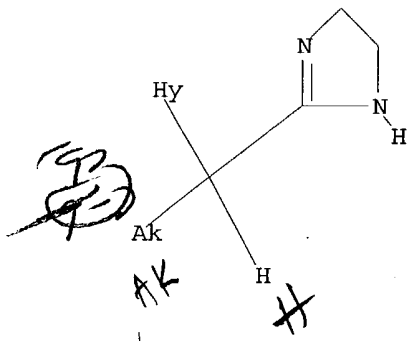

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SEARCH INITIATED 08:18:02 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 9355 TO ITERATE

10.7% PROCESSED 1000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 181305 TO 192895
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 08:18:09 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 188347 TO ITERATE

100.0% PROCESSED 188347 ITERATIONS 11 ANSWERS
SEARCH TIME: 00.00.06

L3 11 SEA SSS FUL L1

=> FIL CAPLUS
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.42	155.63

FILE 'CAPLUS' ENTERED AT 08:18:21 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 08:17:48 ON 24 JUN 2004

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9
DICTIONARY FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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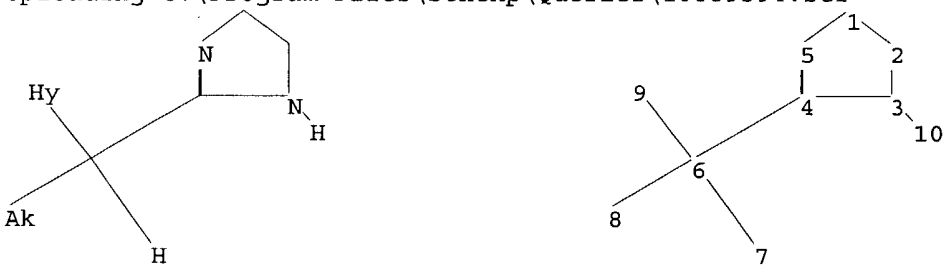
Uploading C:\Program Files\Stnexp\Queries\10689394.str



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ring nodes :
1 2 3 4 5
chain bonds :
3-10 4-6 6-7 6-8 6-9
ring bonds :
1-2 1-5 2-3 3-4 4-5
exact/norm bonds :
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exact bonds :
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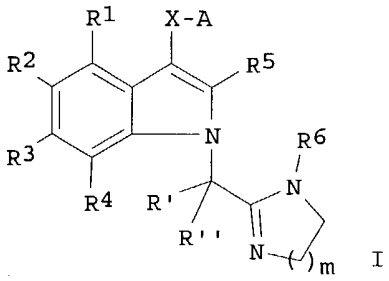
isolated ring systems :
containing 1 :

GI



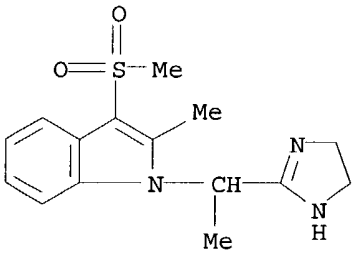
I

AB This invention relates to indoles (shown as I; variables defined below; e.g. 1-[(4,5-dihydro-1H-imidazol-2-yl)methyl]-3-methanesulfonyl-2-methyl-1H-indole) that are α1 receptor agonists, preferably α1 A/L receptor agonists; or individual isomers, racemic or nonracemic mixts. of isomers, or pharmaceutically acceptable salts or solvates thereof. The invention further relates to pharmaceutical compns. containing such compds., their preparation and their use as therapeutic agents, e.g. incontinence, sexual dysfunction, nasal congestion, sinusitis, otitis, depression, anxiety, dementia, senility, Alzheimer's, deficiencies in attentiveness and cognition, eating disorders, obesity, bulimia and anorexia. A number of pharmaceutical compns. are described. PEC50 and intrinsic agonist activity values for 9 examples of I are tabulated. Nineteen example prepns. of I are included. For example, 1-[(4,5-dihydro-1H-imidazol-2-yl)methyl]-3-methanesulfonyl-2-methyl-1H-indole was prepared in 5 steps: (1) to prepare (2-methyl-1H-indol-3-yl)dimethylsulfonium chloride N-chlorosuccinimide (29.35 mmol) was suspended in dichloroethane (40 mL) under a N2 atmosphere and cooled to -10° using an ice-salt-acetone bath. Di-Me sulfide (3 mL) was slowly added with stirring over a period of .apprx.5 min. The mixture was stirred at this temperature for 10 min beyond the addition, at which time the ice-salt-acetone bath was replaced by a dry-ice acetone bath and the temperature was lowered to -50°. To this solution was added 2-methylindole (29.35 mmol) dissolved in dichloroethane (40 mL) slowly with stirring. The reaction mixture was stirred while allowing the temperature to reach 20° over about an hour. (2) To prepare 2-methyl-3-methylthio-1H-indole (2-methyl-1H-indol-3-yl)dimethylsulfonium chloride (2 g) was placed under vacuum in a flask connected to a tube and distillation bulb receiver and gently warmed with a heat gun until bubbling of gas commenced. The sample was heated intermittently until the bubbling ceased and no more product distilled over. (3) To prepare (2-methyl-3-methylsulfanylindol-1-yl)acetonitrile (1.05 g of oil) 2-methyl-3-methylthio-1H-indole (6.21 mmol) was dissolved in toluene (25 mL). To this solution was added bromoacetonitrile (7.42 mmol) and Bu4NBr (1 g). With stirring, a solution of 4 g NaOH dissolved in 4 mL H2O was added. After 30 min another few drops of bromoacetonitrile were added to complete the reaction. After 30 min more, the stirring was stopped and the reaction was allowed to stand overnight at room temperature (4) To prepare [3-(methanesulfonyl)-2-methylindol-1-yl]acetonitrile (1.01 g) (2-methyl-3-methylsulfanylindol-1-yl)acetonitrile (4.86 mmol) was dissolved in CH2Cl2 (50 mL) and cooled in an ice bath to 0°. At this temperature m-chloroperoxybenzoic acid (.apprx.77% , 2.4 g) was added in portions. The ice bath was removed and the reaction mixture was allowed to reach room temperature while stirring for 1 h. (5) To prepare

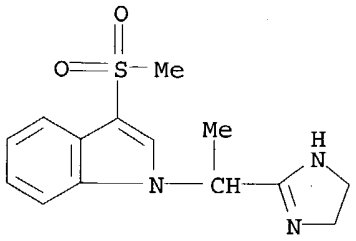
1-[(4,5-dihydro-1H-imidazol-2-yl)methyl]-3-methanesulfonyl-2-methyl-1H-indole (520 mg) N-[3-(methanesulfonyl)-2-methylindol-1-yl]acetonitrile (2.014 mmol) was mixed with ethylenediamine (2 mL) and 2 drops of CS2 was added carefully. The flask was flushed with N2 and placed in an oil bath preheated to 150°. The bath was maintained at 140-150° for a total of 75 min. For I: X is -S(O)n- or -C(O)-; A is (C1-6)-alkyl, aryl, heteroaryl, hydroxy(C1-6)-alkyl, or -(CH2)p-NRaRb; R1, R2, R3, and R4 each independently = H, halogen, halogen(C1-6)-alkyl, (C1-6)-alkyl, hydroxy, (C1-6)-alkoxy, (C1-6)-alkylthio, (C1-6)-alkylsulfinyl, (C1-6)-alkylsulfonyl, (C1-6)-alkylsulfonylamino, (C1-6)-alkylaminosulfonyl, cyano, nitro, -NRaRb, Ph, benzyl and benzyloxy, wherein said Ph rings are (un)substituted with (C1-6)-alkyl, halogen, cyano, nitro, halogen(C1-6)-alkyl, or (C1-6)-alkoxy. R5 is H, (C1-6)-alkyl, (C1-6)-alkoxy, (C1-6)-alkoxyalkyl, (C1-6)-alkylthio, (C1-6)-alkylsulfinyl, (C1-6)-alkylsulfonyl, hydroxy(C1-6)-alkyl, hydroxy(C1-6)-alkylamino, halogen, halogen(C1-6)-alkyl, cyano, -NRaRb, -NRc-(C1-6)-alkylene-NRaRb, or R5 and A together form a C2-C3 alkylene radical; R6 is H or (C1-6)-alkyl; R' and R'' each independently is H or (C1-6)-alkyl; Ra, Rb, and Rc each independently = H, (C1-6)-alkyl, hydroxy(C1-6)-alkyl, (C2-6)-alkenyl, (C3-6)-cycloalkyl(C1-6)-alkyl and arylsulfonyl, or Ra and Rb together with the N they are attached may also form a 5- to 7-membered nonarom. heterocyclic ring optionally incorporating an addnl. ring heteroatom = N, O, or S; m is 1 or 2; n = 0-2 with the proviso that when n is 0, R5 is not -NRaRb; and p = 0-2;.

IT **573715-87-4P**, 1-[1-(4,5-Dihydro-1H-imidazol-2-yl)ethyl]-3-methanesulfonyl-2-methyl-1H-indole **573715-88-5P**, 1-[1-(4,5-Dihydro-1H-imidazol-2-yl)ethyl]-3-methanesulfonyl-1H-indole **573715-89-6P**, 5-Chloro-1-[1-(4,5-dihydro-1H-imidazol-2-yl)ethyl]-3-methanesulfonyl-2-methyl-1H-indole
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of dihydroimidazolylmethylindoles and related compds. as α1 A/L adrenergic receptor agonists for use against incontinence and other disorders)

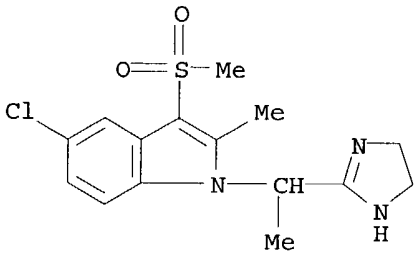
RN 573715-87-4 CAPLUS
CN 1H-Indole, 1-[1-(4,5-dihydro-1H-imidazol-2-yl)ethyl]-2-methyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



RN 573715-88-5 CAPLUS
CN 1H-Indole, 1-[1-(4,5-dihydro-1H-imidazol-2-yl)ethyl]-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



RN 573715-89-6 CAPLUS
CN 1H-Indole, 5-chloro-1-[1-(4,5-dihydro-1H-imidazol-2-yl)ethyl]-2-methyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



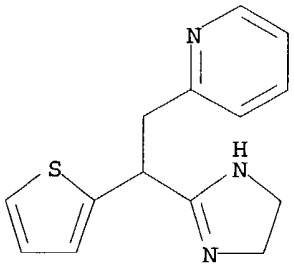
L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:269354 CAPLUS
DOCUMENT NUMBER: 139:143704
TITLE: Imidazoline NNC77-0074 stimulates Ca2+-evoked exocytosis in INS-1E cells by a phospholipase A2-dependent mechanism
AUTHOR(S): Olsen, Hervor L.; Norby, Peder L.; Hoy, Marianne; Spee, Pieter; Thams, Peter; Capito, Kirsten; Petersen, Jacob S.; Gromada, Jesper
CORPORATE SOURCE: Novo Nordisk A/S, Bagsvaerd, DK-2880, Den.
SOURCE: Biochemical and Biophysical Research Communications (2003), 303(4), 1148-1151
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have previously demonstrated that the novel imidazoline compound (+)-2-(2-(4,5-dihydro-1H-imidazol-2-yl)-thiopene-2-yl-ethyl)-pyridine (NNC77-0074) increases insulin secretion from pancreatic β-cells by stimulation of Ca2+-dependent exocytosis. Using capacitance measurements, we now show that NNC77-0074 stimulates exocytosis in clonal INS-1E cells. NNC77-0074-stimulated exocytosis was antagonized by the cytoplasmic phospholipase A2 (cPLA2) inhibitors ACA and AACOCF3 and in cells treated with antisense oligonucleotide against cPLA2α. NNC77-0074-evoked insulin secretion was likewise inhibited by ACA, AACOCF3, and cPLA2α antisense oligonucleotide treatment. In pancreatic islets NNC77-0074 stimulated PLA2 activity. We propose that cPLA2α plays an important role in the regulation of NNC77-0074-evoked exocytosis in insulin secreting β-cells.

IT **573698-57-4**, NNC 77-0074
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU

(Therapeutic use); BIOL (Biological study); USES (Uses)
(imidazoline NNC77-0074 stimulates Ca2+-evoked exocytosis in INS-1E cells by a phospholipase A2-dependent mechanism)
RN 573698-57-4 CAPLUS
CN Pyridine, 2-[2-(4,5-dihydro-1H-imidazol-2-yl)-2-(2-thienyl)ethyl]-, (+)- (9CI) (CA INDEX NAME)

Rotation (+).



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:249813 CAPLUS
DOCUMENT NUMBER: 139:159749
TITLE: Imidazoline NNC77-0074 stimulates insulin secretion and inhibits glucagon release by control of Ca2+-dependent exocytosis in pancreatic α- and β-cells
AUTHOR(S): Hoy, Marianne; Olsen, Hervor L.; Andersen, Henrik S.; Bokvist, Krister; Buschard, Karsten; Hansen, John; Jacobsen, Palle; Petersen, Jacob S.; Rorsman, Patrik; Gromada, Jesper
CORPORATE SOURCE: Novo Nordisk A/S, Bagsvaerd, DK-2880, Den.
SOURCE: European Journal of Pharmacology (2003), 466(1-2), 213-221
CODEN: EJPHAZ; ISSN: 0014-2999
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have investigated the effects of the novel imidazoline compound (+)-2-(2-(4,5-dihydro-1H-imidazol-2-yl)-thiopene-2-yl-ethyl)-pyridine (NNC77-0074) on stimulus-secretion coupling in isolated pancreatic α- and β-cells. NNC77-0074 stimulated glucose-dependent insulin secretion in intact mouse pancreatic islets. No effect was observed at ≤2.5 mM glucose and maximal stimulation occurred at 10-15 mM glucose. NNC77-0074 produced a concentration-dependent stimulation of insulin secretion. Half-maximal (EC50) stimulation was observed at 24 μM and at maximally stimulatory concns. insulin release was doubled. The stimulatory action of NNC77-0074 on insulin secretion was not associated with membrane depolarization or a change in the activity of ATP-sensitive K+ channels. Using capacitance measurements, we found that NNC77-0074 stimulated depolarization-induced exocytosis 2.6-fold without affecting the whole-cell Ca2+ current when applied via the extracellular medium. The concentration dependence of the stimulatory action was determined by intracellular application of NNC77-0074 through the recording pipet. NNC77-0074 stimulated exocytosis half-maximal at 44 nM and at maximally stimulatory

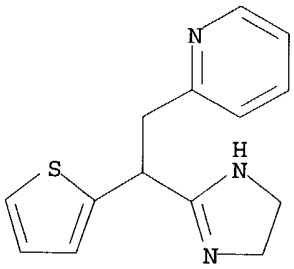
concns. the rate of exocytosis was increased twofold. NNC77-0074 stimulated depolarized-induced insulin secretion from islets exposed to diazoxide and high external KCl (EC50=0.45 μM). The stimulatory action of NNC77-0074 was dependent on protein kinase C activity. NNC77-0074 potently inhibited glucagon secretion from rat islets (EC50=11 nM). This was not associated with a change in spontaneous elec. activity and ATP-sensitive K+ channel activity but resulted from a reduction of the rate of Ca2+-dependent exocytosis in single rat α-cells (EC50=9 nM). Inhibition of exocytosis by NNC77-0074 was pertussis toxin-sensitive and mediated by activation of the protein phosphatase calcineurin. In rat somatotrophs, PC12 cells and mouse cortical neurons NNC77-0074 did not stimulate Ca2+-evoked exocytosis, whereas the other imidazoline compds. phentolamine and efaroxan produced 2.5-fold stimulation of exocytosis. Our data suggest that the imidazoline compound NNC77-0074 constitutes a novel class of antidiabetic compds. that stimulates glucose-dependent insulin release while inhibiting glucagon secretion. These actions are exclusively exerted by modulation of exocytosis of the insulin- and glucagon-containing granules.

IT **573698-57-4**, NNC 77-0074
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(imidazoline NNC77-0074 stimulates insulin secretion and inhibits glucagon release by control of Ca2+-dependent exocytosis in pancreatic α- and β-cells)

RN 573698-57-4 CAPLUS

CN Pyridine, 2-[2-(4,5-dihydro-1H-imidazol-2-yl)-2-(2-thienyl)ethyl]-, (+)- (9CI) (CA INDEX NAME)

Rotation (+).



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:661837 CAPLUS
DOCUMENT NUMBER: 132:35648
TITLE: Structure and properties of ethyl (2-benzimidazolyl)cyanoacetimidate
AUTHOR(S): Yamaguchi, Yoshimi; Okamoto, Yoshihisa; Harada, Kazuho
CORPORATE SOURCE: Center for Natural Sciences, Kitasato University, Sagamihara, 228-8555, Japan
SOURCE: Journal of Heterocyclic Chemistry (1999), 36(4), 841-847
CODEN: JHTCAD; ISSN: 0022-152X
PUBLISHER: HeteroCorporation
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

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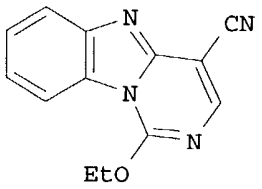
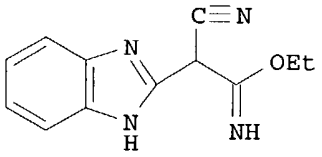
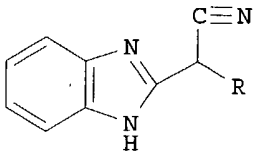


I



II



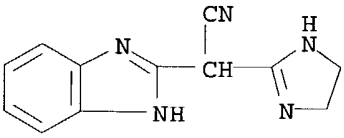
III

AB The structure of the hydrolysis product of the cyanopyrimidobenzimidazole I was revised to be the (benzimidazolyl)cyanoacetimidate II based on crystal structure anal. II reacted with AcOH to give the cyanoacetamide III (R = CONH2). Reaction of II with excess amines R1NH2 (R1 = Bu, benzyl) gave amidines III [R = C(:NH)NHR1, C(:NR1)NHR1].

IT **252350-76-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(mol. structure and reactivity of benzimidazolylcyanoacetimidate, the cyano(ethoxy)pyrimidobenzimidazole hydrolysis product)

RN 252350-76-8 CAPLUS

CN 1H-Benzimidazole-2-acetonitrile, α-(4,5-dihydro-1H-imidazol-2-yl)-(9CI) (CA INDEX NAME)

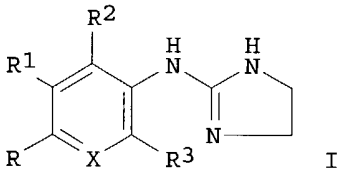


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:706207 CAPLUS
DOCUMENT NUMBER: 129:316226
TITLE: Imidazole and imidazoline derivatives as α2 adrenergic agonists
INVENTOR(S): Wong, Wai C.; Jeon, Yoon T.; Dhar, T. G. Murali; Gluchowski, Charles
PATENT ASSIGNEE(S): Synaptic Pharmaceutical Corp., USA
SOURCE: PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9846572 A1 19981022 WO 1998-US7453 19980410
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
US 5866579 A 19990202 US 1997-834658 19970411
AU 9869705 A1 19981111 AU 1998-69705 19980410
EP 975602 A1 20000202 EP 1998-915550 19980410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
US 6093727 A 20000725 US 1998-175253 19981020
US 6294566 B1 20010925 US 1999-398861 19990920
US 2002019390 A1 20020214 US 2001-933106 20010820
PRIORITY APPLN. INFO.: US 1997-834658 A 19970411
WO 1998-US7453 W 19980410
US 1998-175253 A1 19981020
US 1999-398861 A1 19990920
OTHER SOURCE(S): MARPAT 129:316226
GI



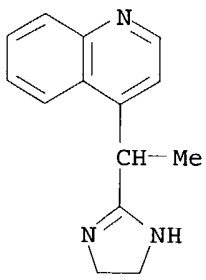
I

AB Title compds. I [X = (un)substituted CH, N, N(O); RR1 = atoms required to complete an (un)substituted 5- or 6-membered carbocycle or heterocycle; R2, R3 = H, F, Cl, Br, I, NO2, CN, alkyl, fluoroalkyl, alkoxy, OH, hydroxyalkyl, acyl, (un)esterified CO2H, carbamoyl, Ph, CH2Ph] were prepared for use as α2 adrenergic agonists. Thus, 5-aminoindan was treated with 2-imidazolinesulfonic acid to give 73% 2-(5-indanylamino)-2-imidazoline which had a pKi for human α2 adrenoceptor binding of 8.94, cf medetomidine 8.62.

IT **214700-07-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of imidazoline derivs. as α2 adrenergic agonists)

RN 214700-07-9 CAPLUS

CN Quinoline, 4-[1-(4,5-dihydro-1H-imidazol-2-yl)ethyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:934501 CAPLUS
DOCUMENT NUMBER: 124:45429
TITLE: The novel antiepileptic drug levetiracetam (ucb L059) appears to act via a specific binding site in CNS membranes
AUTHOR(S): Noyer, Michel; Gillard, Michel; Matagne, Alain; Henichart, Jean-Pierre; Wuelfert, Ernst
CORPORATE SOURCE: UCB Pharmaceutical Sector, Chemin du Foriest, Braine-l'Alleud, 1420, Belg.
SOURCE: European Journal of Pharmacology (1995), 286(2), 137-46
CODEN: EJPHAZ; ISSN: 0014-2999
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

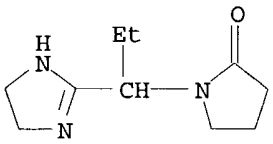
AB Levetiracetam ((S)-α-ethyl-2-oxo-pyrrolidine acetamide, ucb L059) is a novel potential antiepileptic agent presently in clin. development with unknown mechanism of action. The finding that its anticonvulsant activity is highly stereoselective (Gower et al., 1992) led the authors' to investigate the presence of specific binding sites for [3H]levetiracetam in rat central nervous system (CNS). Binding assays, performed on crude membranes, revealed the existence of a reversible, saturable and stereoselective specific binding site. Results obtained in hippocampal membranes suggest that [3H]levetiracetam labels a single class of binding sites (nH = 0.92) with modest affinity (Kd = 780 nM) and with a high binding capacity (Bmax = 9.1 pmol/mg protein). Similar Kd and Bmax values were obtained in other brain regions (cortex, cerebellum and striatum). ucb L060, the (R) enantiomer of levetiracetam, displayed about 1000 times less affinity for these sites. The binding of [3H]levetiracetam is confined to the synaptic plasma membranes in the central nervous system since no specific binding was observed in a range of peripheral tissues including heart, kidneys, spleen, pancreas, adrenals, lungs and liver. The commonly used antiepileptic drugs carbamazepine, phenytoin, valproate, phenobarbital and clonazepam, as well as the convulsant agent t-butylbicyclophosphorothionate (TBPS), picrotoxin and bicuculline did not displace [3H]levetiracetam binding. However, ethosuximide (pKi = 3.5), pentobarbital (pKi = 3.8), pentylenetetrazole (pKi = 4.1) and bemegride (pKi = 5.0) competed with [3H]levetiracetam with pKi values comparable to active drug concns. observed in vivo. Structurally related compds., including piracetam and aniracetam, also displaced [3H]levetiracetam binding. (S) Stereoisomer homologs of levetiracetam demonstrated a rank order of affinity for [3H]levetiracetam binding in correlation with their anticonvulsant activity in the audiogenic mouse test (r2 = 0.84). These

results support a possible role of this binding site in the anticonvulsant activity of levetiracetam and substantiate the singular pharmacol. profile of this compound This site remains however to be further characterized.

IT **172171-76-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(the novel antiepileptic drug levetiracetam (ucb L059) appears to act via a specific binding site in CNS membranes)

RN 172171-76-5 CAPLUS

CN 2-Pyrrolidinone, 1-[1-(4,5-dihydro-1H-imidazol-2-yl)propyl]- (9CI) (CA INDEX NAME)



L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1970:12784 CAPLUS
DOCUMENT NUMBER: 72:12784
TITLE: Heterocyclic derivatives useful in regulating heart activity
INVENTOR(S): Zivkovic, Dusan
PATENT ASSIGNEE(S): UCB (Union Chimique-Chemische Bedrijven), S. A.
SOURCE: Ger. Offen., 30 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1905525	A	19690828	DE 1969-1905525	19690205
GB 1191963	A	19700513	GB 1968-6049	19680207
NL 6901745	A	19690811	NL 1969-1745	19690204
FR 2001439	A5	19690926	FR 1969-2378	19690204
US 3661927	A	19720509	US 1969-796920	19690205
SE 371826	B	19741202	SE 1969-1527	19690205
BE 727977	A	19690806	BE 1969-727977	19690206
ES 363344	A1	19701216	ES 1969-363344	19690206
BR 6906182	A0	19730109	BR 1969-206182	19690206

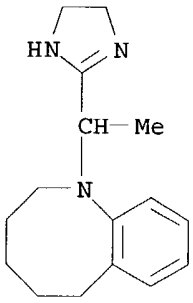
PRIORITY APPLN. INFO.: GB 1968-6049 19680207

AB cH2, 1, H, H, 95-6°, 252-3°; 3, CH2, 9-Cl, CH2, 2, H, H, 93-5°, 247-8°; 3, CH2, 9-F, CH2, 1, H, H, 124-6°, 226-8°; 3, CH2, H, CHMe, 1, H, H, 111-12°, 211-12°; 3, S, H, CH2, 1, H, H, 85-6°, 205°; 3, S, H, CH2, 1, H, Me, , 163-4°; 3, S, 8-Cl, CH2, 1, H, H, 130-2°, 214-15°; 3, S, 8-Cl, CH2, 1, H, Me, ; 155-6°; 3, S, 8-Me, CH2, 1, H, H, 95-7°, 213-15°; 3, S, 8-Cl, (CH2)3, 1, H, H, 92-3°, 164-5°; 3, S, 8-Cl, CHMe, 1, H, H, 99-101°, 139-41°; 3, CH2, H, CH2, 1, Me, H, 82-3°, 205-7°; 3, S, 8-Cl, CH2, 1, iso-Pr, H, , 232-3°; 3, S, H, CH2, 1, Et, H, , 146-7°; 3, S, 8-Cl, CH2, 1, Et, H, 81-2°, 189-90°; 3, S, H, (CH2)3, 1, H, H, , 140-1°; 3, S,8-Cl, CH2CHMeCH2, 1, H, H, , 228-30°; 3, S, 3,8-Me(Cl), CH2, 1, H, H, , 178-9°; 3, CH2, 9-Me, CH2, 1, H,

Me, 130-4°/0.001, 227-8°; 3, CH2, 9-Cl, CH2, 1, H, Me, 160-70°/0.005, 230-1°; 3, CH2, H, CH2CHMeCH2, 1, H, H, 150-55°/0.001, 204-5°; 3, CH2, H, CH2, 1, iso-Pr, H, , 191-2°. I possess cardiotonic properties. Pharmacol. data are given.

IT **24484-23-9P 24484-36-4P 24484-37-5P**, 2H-1,6-Benzothiazocine, 8-chloro-3,4,5,6-tetrahydro-6-[1-(2-imidazolin-2-yl)ethyl]-, monohydrochloride **24484-56-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24484-23-9 CAPLUS
CN 1-Benzazocine, 1,2,3,4,5,6-hexahydro-1-[1-(2-imidazolin-2-yl)ethyl]-, monohydrochloride (8CI) (CA INDEX NAME)



● HCl

RN 24484-36-4 CAPLUS
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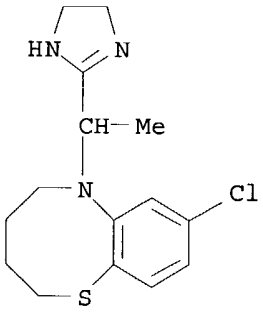
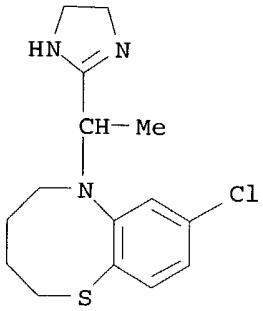
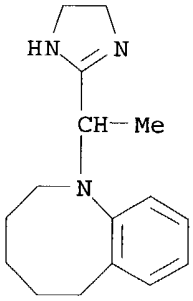


RN 24484-37-5 CAPLUS
CN 2H-1,6-Benzothiazocine, 8-chloro-3,4,5,6-tetrahydro-6-[1-(2-imidazolin-2-yl)ethyl]-, monohydrochloride (8CI) (CA INDEX NAME)



● HCl

RN 24484-56-8 CAPLUS
CN 1-Benzazocine, 1,2,3,4,5,6-hexahydro-1-[1-(2-imidazolin-2-yl)ethyl]- (8CI) (CA INDEX NAME)



=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	37.24	192.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.85	-4.85

FILE 'REGISTRY' ENTERED AT 08:23:50 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9
DICTIONARY FILE UPDATES: 23 JUN 2004 HIGHEST RN 698346-19-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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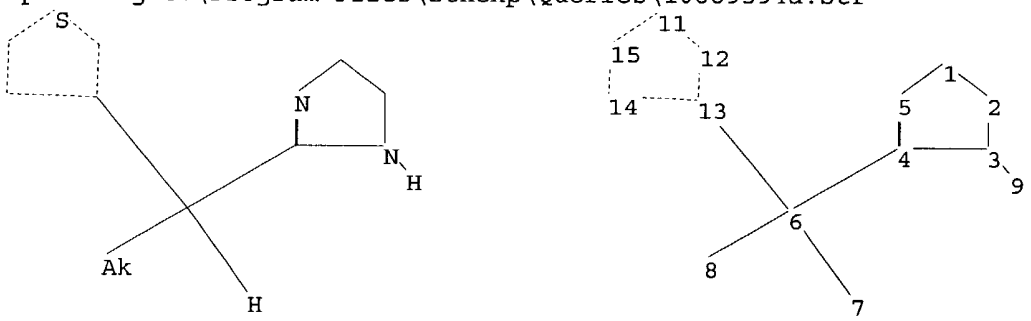
Uploading C:\Program Files\Stnexp\Queries\10689394a.str

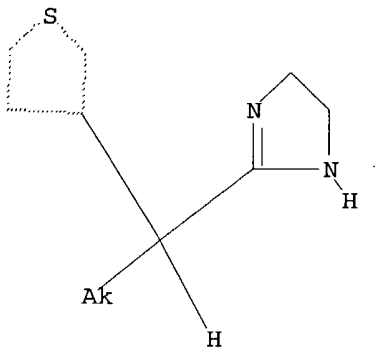


chain nodes :
6 7 8 9
ring nodes :
1 2 3 4 5 11 12 13 14 15
chain bonds :
3-9 4-6 6-7 6-8 6-13
ring bonds :
1-2 1-5 2-3 3-4 4-5 11-12 11-15 12-13 13-14 14-15
exact/norm bonds :
1-5 2-3 3-4 4-5 6-8 11-12 11-15 12-13 13-14 14-15
exact bonds :
1-2 3-9 4-6 6-7 6-13
isolated ring systems :
containing 1 : 11 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS
11:CLASS 12:Atom 13:Atom 14:Atom 15:Atom

L5 STRUCTURE UPLOADED

=> d l5
L5 HAS NO ANSWERS
L5 STR



Structure attributes must be viewed using STN Express query preparation.

```
=> s l5
SAMPLE SEARCH INITIATED 08:24:15 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     10 TO ITERATE

100.0% PROCESSED      10 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:           11 TO      389
PROJECTED ANSWERS:               0 TO        0

L6            0 SEA SSS SAM L5

=> s l5 sss full
FULL SEARCH INITIATED 08:24:22 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    196 TO ITERATE

100.0% PROCESSED     196 ITERATIONS                               0 ANSWERS
SEARCH TIME: 00.00.01

L7            0 SEA SSS FUL L5

=>
Uploading C:\Program Files\Stnexp\Queries\10689394b.str
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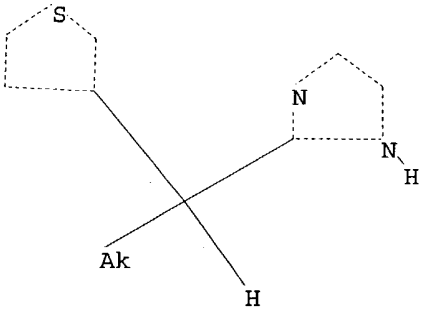
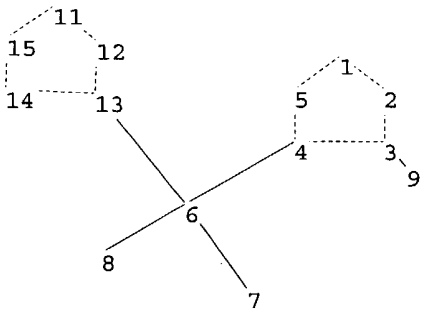




chain nodes :
6 7 8 9

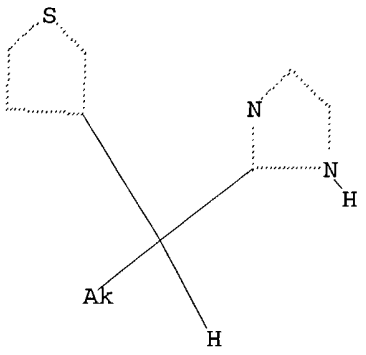
10689394

ring nodes :
1 2 3 4 5 11 12 13 14 15
chain bonds :
3-9 4-6 6-7 6-8 6-13
ring bonds :
1-2 1-5 2-3 3-4 4-5 11-12 11-15 12-13 13-14 14-15
exact/norm bonds :
1-2 1-5 2-3 3-4 4-5 6-8 11-12 11-15 12-13 13-14 14-15
exact bonds :
3-9 4-6 6-7 6-13
isolated ring systems :
containing 1 : 11 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS
11:CLASS 12:Atom 13:Atom 14:Atom 15:Atom

L8 STRUCTURE UPLOADED

=> d l8
L8 HAS NO ANSWERS
L8 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l8
SAMPLE SEARCH INITIATED 08:25:55 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 10 TO ITERATE

100.0% PROCESSED 10 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 11 TO 389
PROJECTED ANSWERS: 0 TO 0

L9 0 SEA SSS SAM L8

```
=> s l8 sss full
FULL SEARCH INITIATED 08:26:01 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    196 TO ITERATE

100.0% PROCESSED     196 ITERATIONS                          0 ANSWERS
SEARCH TIME: 00.00.01

L10           0 SEA SSS FUL L8

=> d his

     (FILE 'HOME' ENTERED AT 08:17:28 ON 24 JUN 2004)

     FILE 'REGISTRY' ENTERED AT 08:17:48 ON 24 JUN 2004
L1              STRUCTURE UPLOADED
L2            0 S L1
L3           11 S L1 SSS FULL

     FILE 'CAPLUS' ENTERED AT 08:18:21 ON 24 JUN 2004
L4            7 S L3

     FILE 'REGISTRY' ENTERED AT 08:23:50 ON 24 JUN 2004
L5              STRUCTURE UPLOADED
L6            0 S L5
L7            0 S L5 SSS FULL
L8              STRUCTURE UPLOADED
L9            0 S L8
L10           0 S L8 SSS FULL

=> s l4 and thu
              8 THU
             13 THUS
             21 THU
                (THU OR THUS)
L11           0 L4 AND THU

=> s l4 and py<=2002
'2002' NOT A VALID FIELD CODE
              0 PY<=2002
L12           0 L4 AND PY<=2002

=> s l4 and thienyl
         263883 THIENYL
L13           1 L4 AND THIENYL

=> d l13 ibib abs hitstr tot
'IBIB' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'ABS' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual
fields or predefined formats.  The predefined substance formats
are:  (RN = CAS Registry Number)

REG     - RN
SAM     - Index Name, MF, and structure - no RN
FIDE    - All substance data, except sequence data
IDE     - FIDE, but only 50 names
```

```
SQIDE  - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD    - Protein sequence data, includes RN
SQD3   - Same as SQD, but 3-letter amino acid codes are used
SQN    - Protein sequence name information, includes RN

CALC   - Table of calculated properties
EPROP  - Table of experimental properties
PROP   - EPROP and CALC

Any CA File format may be combined with any substance format to
obtain CA references citing the substance.  The substance formats
must be cited first.  The CA File predefined formats are:

ABS  -- Abstract
APPS -- Application and Priority Information
BIB  -- CA Accession Number, plus Bibliographic Data
CAN  -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND  -- Index Data
IPC  -- International Patent Classification
PATS -- PI, SO
STD  -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when
it is available.
The MAX format is the same as ALL.
The IALL format is the same as ALL with BIB ABS and IND indented,
with text labels.

For additional information, please consult the following help
messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):end

=> d his

     (FILE 'HOME' ENTERED AT 08:17:28 ON 24 JUN 2004)

     FILE 'REGISTRY' ENTERED AT 08:17:48 ON 24 JUN 2004
L1             STRUCTURE UPLOADED
L2           0 S L1
L3          11 S L1 SSS FULL

     FILE 'CAPLUS' ENTERED AT 08:18:21 ON 24 JUN 2004
L4           7 S L3

     FILE 'REGISTRY' ENTERED AT 08:23:50 ON 24 JUN 2004
```

```
L5              STRUCTURE UPLOADED
L6            0 S L5
L7            0 S L5 SSS FULL
L8              STRUCTURE UPLOADED
L9            0 S L8
L10           0 S L8 SSS FULL
L11           0 S L4 AND THU
L12           0 S L4 AND PY<=2002
L13           1 S L4 AND THIENYL
```

```
=> FIL CAPLUS
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY     SESSION
FULL ESTIMATED COST                                  322.22      515.09

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY     SESSION
CA SUBSCRIBER PRICE                                    0.00       -4.85

FILE 'CAPLUS' ENTERED AT 08:28:24 ON 24 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 24 Jun 2004  VOL 140 ISS 26
FILE LAST UPDATED: 23 Jun 2004  (20040623/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l13
L14           2 L13

=> d l14 ibib abs hitstr tot

L14  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2003:269354  CAPLUS
DOCUMENT NUMBER:          139:143704
TITLE:                    Imidazoline NNC77-0074 stimulates Ca2+-evoked
                          exocytosis in INS-1E cells by a phospholipase
                          A2-dependent mechanism
AUTHOR(S):                Olsen, Hervor L.; Norby, Peder L.; Hoy, Marianne;
                          Spee, Pieter; Thams, Peter; Capito, Kirsten; Petersen,
                          Jacob S.; Gromada, Jesper
CORPORATE SOURCE:         Novo Nordisk A/S, Bagsvaerd, DK-2880, Den.
SOURCE:                   Biochemical and Biophysical Research Communications
                          (2003), 303(4), 1148-1151
                          CODEN: BBRCA9; ISSN: 0006-291X

10689394
```

PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English

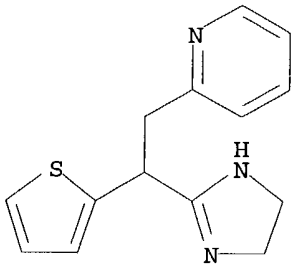
AB We have previously demonstrated that the novel imidazoline compound (+)-2-(2-(4,5-dihydro-1H-imidazol-2-yl)-thiopene-2-yl-ethyl)-pyridine (NNC77-0074) increases insulin secretion from pancreatic β-cells by stimulation of Ca2+-dependent exocytosis. Using capacitance measurements, we now show that NNC77-0074 stimulates exocytosis in clonal INS-1E cells. NNC77-0074-stimulated exocytosis was antagonized by the cytoplasmic phospholipase A2 (cPLA2) inhibitors ACA and AACOCF3 and in cells treated with antisense oligonucleotide against cPLA2α. NNC77-0074-evoked insulin secretion was likewise inhibited by ACA, AACOCF3, and cPLA2α antisense oligonucleotide treatment. In pancreatic islets NNC77-0074 stimulated PLA2 activity. We propose that cPLA2α plays an important role in the regulation of NNC77-0074-evoked exocytosis in insulin secreting β-cells.

IT **573698-57-4**, NNC 77-0074
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(imidazoline NNC77-0074 stimulates Ca2+-evoked exocytosis in INS-1E cells by a phospholipase A2-dependent mechanism)

RN 573698-57-4 CAPLUS

CN Pyridine, 2-[2-(4,5-dihydro-1H-imidazol-2-yl)-2-(2-thienyl)ethyl]-, (+)-(9CI) (CA INDEX NAME)

Rotation (+).



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:249813 CAPLUS
DOCUMENT NUMBER: 139:159749
TITLE: Imidazoline NNC77-0074 stimulates insulin secretion and inhibits glucagon release by control of Ca2+-dependent exocytosis in pancreatic α- and β-cells
AUTHOR(S): Hoy, Marianne; Olsen, Hervor L.; Andersen, Henrik S.; Bokvist, Krister; Buschard, Karsten; Hansen, John; Jacobsen, Palle; Petersen, Jacob S.; Rorsman, Patrik; Gromada, Jesper
CORPORATE SOURCE: Novo Nordisk A/S, Bagsvaerd, DK-2880, Den.
SOURCE: European Journal of Pharmacology (2003), 466(1-2), 213-221
CODEN: EJPHAZ; ISSN: 0014-2999
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

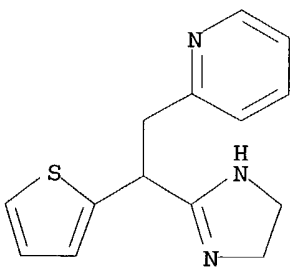
AB We have investigated the effects of the novel imidazoline compound (+)-2-(2-(4,5-dihydro-1H-imidazol-2-yl)-thiopene-2-yl-ethyl)-pyridine (NNC77-0074) on stimulus-secretion coupling in isolated pancreatic α- and β-cells. NNC77-0074 stimulated glucose-dependent insulin secretion in intact mouse pancreatic islets. No effect was observed at ≤2.5 mM glucose and maximal stimulation occurred at 10-15 mM glucose. NNC77-0074 produced a concentration-dependent stimulation of insulin secretion. Half-maximal (EC50) stimulation was observed at 24 μM and at maximally stimulatory concns. insulin release was doubled. The stimulatory action of NNC77-0074 on insulin secretion was not associated with membrane depolarization or a change in the activity of ATP-sensitive K+ channels. Using capacitance measurements, we found that NNC77-0074 stimulated depolarization-induced exocytosis 2.6-fold without affecting the whole-cell Ca2+ current when applied via the extracellular medium. The concentration dependence of the stimulatory action was determined by intracellular application of NNC77-0074 through the recording pipet. NNC77-0074 stimulated exocytosis half-maximal at 44 nM and at maximally stimulatory concns. the rate of exocytosis was increased twofold. NNC77-0074 stimulated depolarized-induced insulin secretion from islets exposed to diazoxide and high external KCl (EC50=0.45 μM). The stimulatory action of NNC77-0074 was dependent on protein kinase C activity. NNC77-0074 potently inhibited glucagon secretion from rat islets (EC50=11 nM). This was not associated with a change in spontaneous elec. activity and ATP-sensitive K+ channel activity but resulted from a reduction of the rate of Ca2+-dependent exocytosis in single rat α-cells (EC50=9 nM). Inhibition of exocytosis by NNC77-0074 was pertussis toxin-sensitive and mediated by activation of the protein phosphatase calcineurin. In rat somatotrophs, PC12 cells and mouse cortical neurons NNC77-0074 did not stimulate Ca2+-evoked exocytosis, whereas the other imidazoline compds. phentolamine and efaroxan produced 2.5-fold stimulation of exocytosis. Our data suggest that the imidazoline compound NNC77-0074 constitutes a novel class of antidiabetic compds. that stimulates glucose-dependent insulin release while inhibiting glucagon secretion. These actions are exclusively exerted by modulation of exocytosis of the insulin- and glucagon-containing granules.

IT **573698-57-4**, NNC 77-0074
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(imidazoline NNC77-0074 stimulates insulin secretion and inhibits glucagon release by control of Ca2+-dependent exocytosis in pancreatic α- and β-cells)

RN 573698-57-4 CAPLUS

CN Pyridine, 2-[2-(4,5-dihydro-1H-imidazol-2-yl)-2-(2-thienyl)ethyl]-, (+)- (9CI) (CA INDEX NAME)

Rotation (+).



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.39	525.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.39	-6.24

STN INTERNATIONAL LOGOFF AT 08:29:27 ON 24 JUN 2004